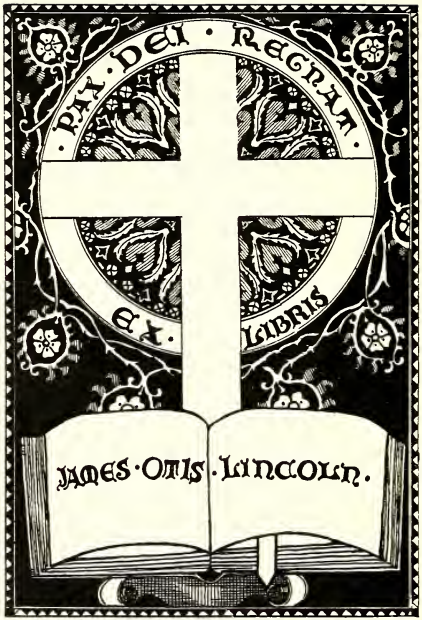
MANUAL OF HARMONY
AND
THOROUGH BASS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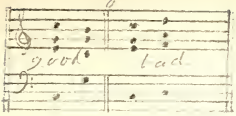

Under J. K. Paine, at Harvard

MANUAL OF HARMONY;

BEING

AN ELEMENTARY TREATISE OF THE PRINCIPLES OF

THOROUGH BASS,

WITH AN

Explanation of the System of Notation;

AND DESIGNED AS A

TEXT-BOOK FOR THE USE OF SEMINARIES AND SCHOOLS,

AS WELL AS FOR PRIVATE INSTRUCTION.

By

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PREFACE.

In this little work, the object has been to prepare an elemen tary Text-book for the study of Harmony, which should be at once brief, simple, and concise. Many excellent works already exist upon the subject, which, however, appear too voluminous and diffuse, consequently often too obscure, for such a purpose, and by no means adapted for the use of beginners. Nothing farther is here attempted than to impart a knowledge of simple choral-writing in four parts. A step beyond this would encroach upon the limits of other branches of the science, which, unfortunately, but few seem desirous of investigating in this country.

The author pretends to have laid down nothing new; he has simply studied to present the rudiments of music in a perfectly intelligible form. No musical knowledge whatever is presupposed on the part of the student; simply, a *musical ear*. If *any* deviation has been made from the usual method of presenting the subject, it was only when additional clearness would seem to be the result.

In preparing these pages, free use has been made of a little work that has recently appeared in Germany, by E. F. Richter, a Professor of the Conservatory at Leipzig. Musical Theory, as at present taught in that institution, though differ-

ing, perhaps, in some minor points from the method of other schools, seems to bear the palm over all others for simplicity; and we have therefore given the preference to its doctrines upon those points.

The method of Questions and Exercises pursued here, may have a double advantage. Beside the common one of instructing in this way classes of younger pupils, or in any case where discipline is necessary, they may also assist the private student, the former by pointing out the more important matters contained in the text, and the latter by exemplifying the usual method of writing for four voices. With regard to the Exercises, the instructor should by no means confine himself to those in the book. The few that are given will fall far short of perfecting the student in the contents of the several chapters, and are merely intended as samples, to be varied and multiplied at the discretion of the teacher. Neither is the Key at the end to be considered in all cases decisive; on the contrary, the same bass can evidently be harmonized in many different ways. Here again the Exercises serve merely as a guide to the student.

In conclusion, the author trusts he has met a decided want that has long been felt among the teachers and students of simple harmony.

Boston,
August, 1855.

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PART I.

NOTATION.

A MANUAL OF

HARMONY AND THOROUGH BASS.

NOTATION.

CHAPTER I.

THE DIATONIC SCALE OF C.

Notation is the system of naming musical sounds, and representing them by written characters, just as the speaking sounds of the voice are named and represented by the letters of the alphabet. The characters which represent sounds are called *Notes*. Notation. Notes.

As these musical sounds may vary either in quality or duration, the subject of notation naturally divides itself into two divisions. The method of representing the former, called *Pitch*, we shall explain in this and the two following chapters; the latter, called *Rhythm*, will form the subject of the fourth. Pitch. Rhythm.

There are but twelve musical sounds sufficiently distinct from each other to receive different names, and be represented by different characters. All which lie between these twelve, are so faintly distinguishable from them as to be considered the same sounds; and all which lie beyond them are but repetitions of the same, though more or less acute in their quality.

Tones and Semitones.

These twelve sounds, with reference to their distance from each other, are divided into *Semitones* and *Whole Tones*.* From each sound to the next above or below is but a semitone, and to the next but one a whole tone. According as a melody or piece of music begins and terminates upon one or other of these sounds, it is said to be in such or

Key.

such a *Key*. There are consequently but twelve different keys in which a melody can be sung or played.

Groundwork of a Melody

But not all of the twelve sounds are required to make a melody. On the contrary, let the student take any simple melody he may have in his head, and he will find it contains throughout but *seven* different ones, generally speaking. Neither must all these seven necessarily be used, though he will seldom find more than that number. When others do occur, they form an exception, to be explained upon principles that will be understood hereafter.

Key-Note.

There are but *seven* fundamental sounds, then, required for the ground-work of every piece of music. That which finishes the piece, (and the same generally begins it,) is called the *Key-Note;* it is the principal one of the seven, it gives the name to the key in which the melody is performed, and upon it all the other six depend.

Diatonic Scale.

Now it is evident that any one of the twelve semitones may be taken as the key-note. The seven tones of a melody, beginning with the key-note, and sung or written in order, form what is called the *Diatonic Scale* of that key. There are therefore *twelve* different *diatonic scales.*

Scale of C.

The seven sounds of one of these twelve diatonic scales are named by the first seven letters of the alphabet, A, B, C, D, E, F, G; and C has been fixed upon to represent the key-note or first of the seven. This scale is called therefore the *Diatonic Scale of C.* These seven letters have been found sufficient, with the aid of certain other signs which we shall presently explain, to represent all the twelve semitones.

Staff.

Notes are written upon five parallel lines, called the *Staff,* and in the spaces between them; with the aid of additional short lines, as occasion

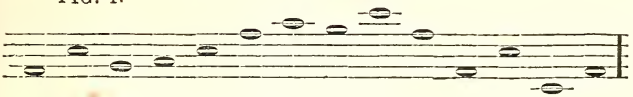
Leger-Lines

requires, called *Leger-Lines.*

---

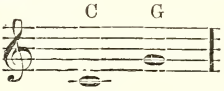
* The word *tone*, it will be seen, may have two significations. The one, as distinguished from a *semitone*, according to the text; the other, meaning *any* sound, when considered independently by itself. A semitone is a *tone*, when sounded alone, and having no reference to the sound next above or below it

FIG. 1.



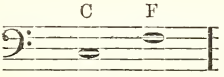
There are two signs called *Clefs*, one of which is always found at the beginning of every staff. One,  called the G clef, (or violin clef,) is used in writing notes for higher voices and instruments. It is always placed on the second line, (reckon always from below,) and a note upon that line always represents the sound above fixed upon as G; that is, the fifth sound in the diatonic scale of C. Clefs.

FIG. 2.



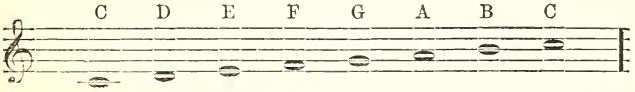
The other clef  , called the F or bass clef, is used for lower voices and instruments. It is put upon the fourth line, and a note on that line represents F, or the fourth sound of the scale of C.

FIG. 3.



Let us now write down the diatonic scale of C, using the G clef.

FIG. 4.



NOTE. There is still a third clef,  , called the C clef, used mostly for voices and instruments of middle register, which we are sorry to find is growing obsolete in this country, and which we have therefore unwillingly determined to dispense with in the present work.

It will be seen here, that after writing down the seven sounds of the scale of C, we have added an eighth, and called it C again. To prove that the scale still consists of but seven sounds, that this second C was not a new one, and that consequently no new letter was required, the student has but to sing or play through the seven sounds in order, and he will find that, having finished them, he will arrive next at a sound which is but a repetition of the first C, though of an increased acuteness in quality, or, technically speaking, of a higher pitch. According, therefore, to what we stated on page 1, with regard to the twelve sounds of which the ear is capable, it is evident that the other five must lie somewhere between these two C's.

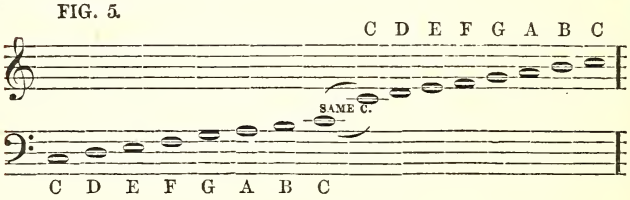
Their position and notation we shall explain in the next chapter.

NOTE 1. In singing, playing, or writing the scale, we always repeat the first tone, C, and finish with it, as indicated in Fig. 4, making eight sounds in all.

NOTE 2. It is evident that if we had continued the series of notes in Fig. 4 both from above and below, we should have arrived at several repetitions of C, (as well as of the other sounds,) each of a different quality as regards pitch, but still the same sound, C. No human voice, and but few instruments, can produce more than three at the farthest. The piano-forte can produce seven; but it is clear that if carried beyond this, sounds could not be easily identified and distingished from each other.

The same C that is written on the first leger-line below, in the G clef is written on the first above in the bass clef. Thus:

FIG. 5.



QUESTIONS.

What is notation?
What are the characters which represent musical sounds called?
What is meant by pitch?

What is rhythm?

How many musical sounds are there, sufficiently distinct for notation?

What is meant by a semitone?

What is a whole tone?

How many sounds form the groundwork of a melody or piece of music?

What is meant by the key-note?

In how many different keys can the same melody be performed?

What is the diatonic scale?

How many are there?

Which diatonic scale is represented by the letters A, B, C, D, E, F, G?

What is the staff?

What are leger-lines?

Of what use are the clefs?

How many are there in general use?

On which line is the G clef placed?

On which is the F or bass clef placed?

Where does the same C fall in the G and F clefs, respectively?

EXERCISES.

Ex. 1. Write the notes C, F, G and A, in the G clef, without leger-lines.

2. Write the notes C, E, B, D and G, on leger-lines, in the G clef.

3. Write the notes A, F, B, C and E, in the bass clef, without leger-lines.

4 Write the notes D, B, G and C, only upon leger-lines, in the bass clef.

5. Write the diatonic scale of C, in the bass clef, including three C's.

6. Write the diatonic scale of C, in the G clef, including three C's.

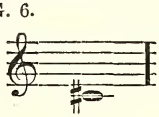
CHAPTER II.

THE CHROMATIC AND ENHARMONIC SCALES.

By sounding the different notes of the diatonic scale of C, a musical ear will easily perceive that they are not at a uniform distance from each other throughout. Between C and D, for instance, a semitone can be inserted, which shall be readily distinguished from either of those two sounds. This, then, must be one of the twelve semitones, or one of the five which were not included in the scale of C. In like manner, between D and E a semitone can intervene. But between E and F the ear can supply none. If we carry the investigation further, we shall find that the other three semitones will come between F and G, G and A, and A and B respectively. These five semitones are represented as follows.

Sharps, This sign, ♯, called a *sharp*, when placed before a note serves to raise the sound, represented by that note, to the next semitone above. If, then, we wish to represent the semitone between C and D, we express it thus:

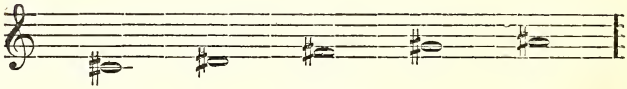
FIG. 6.



and the note is called *C sharp*.

The five semitones, then, not included in the scale of C, are written thus:

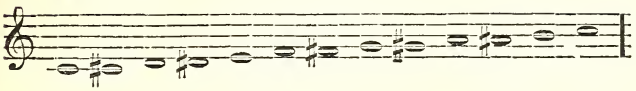
FIG. 7.



Chromatic Scale ascending. The whole twelve semitones, written or played in order, constitute what is called the *chromatic* scale, in contra-distinction to the diatonic scale.

CHROMATIC SCALE, ASCENDING.

FIG. 8.



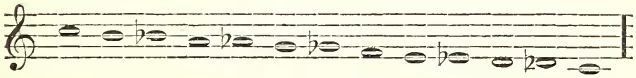
Observe that we have styled this the *ascending* chromatic scale, that is, when the twelve semitones are played through from a lower to an upper C. When played from an upper to a lower C they are written different.y.

As a sharp raises a note a semitone, so this sign, ♭, called *a flat,* serves to lower it to the next semitone below. Thus, if we wish to pass from B to the semitone between it and A, we write it thus: **Flat**

FIG. 9.

and the note is called *B flat.* So with the others. The chromatic scale *descending* is therefore written thus: **Chromatic Scale descending.**

FIG. 10.



By comparing the ascending and descending chromatic scales, it will be seen that the same semitone can be written in two different ways. For instance, the semitone between F and G was written in the one case as F sharp, and in the other as G flat. We shall see hereafter that theory requires a sound to be written sometimes in one way and sometimes in another, because, according as it is a sharp or a flat, it has a totally different meaning. For instance, F sharp is theoretically quite different from G flat, though practically the sound is the same, and produced by the same key upon the piano-forte or organ.

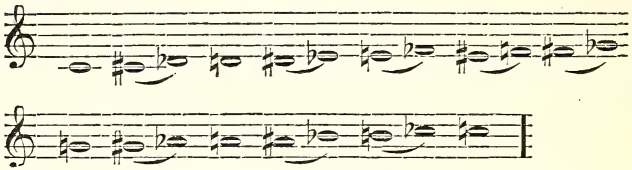
NOTE. There are also signs called double sharps and double flats, ×, ♭♭, though less frequently used, and which serve to raise or depress a note *two* semitones. Thus the tone B might be written as *A double sharp*, and C as *D double flat.*

Enharmonic Scale.

When we write the twelve semitones in order, representing each one, both as the semitone above lowered, and as the one below raised — or if one of the seven sounds of the diatonic scale of C, also in its natural place — this is called the *Enharmonic Scale.* This brings us to the explanation of a third sign, ♮, called a *Natural,* which serves to restore a note to its natural place, after it has been raised or lowered by means of a sharp or flat.

ENHARMONIC SCALE.

FIG. 11.



The notes braced together, it will be seen, express the same sound.

Enharmonic and Chromatic Scales the same in all keys.

Either of the three kinds of scales above described may commence upon any one of the twelve semitones — that is, any one may be taken as the key-note — or, in other words, the scales can be played in any of the twelve keys. But it is evident that the chromatic and enharmonic scales will produce the same succession of sounds in all keys, as each includes the whole twelve semitones. These two can therefore convey no idea of *key* or *tonality,* that is, the ear will not identify any particular key when the passage occurs, excepting so far as they terminate upon the key-note.

The enharmonic scale exists only in theory, but will never occur in practice.

The chromatic scale is frequently met with in music of a brilliant character, especially for the piano-forte, where it is most easily executed. It will, however, appear under different forms, that is, requiring more or less sharps or flats, depending on the key in which the piece is written. This will be better understood hereafter.

But with the *diatonic* scale the case is widely different. According as it commences upon either of the twelve semitones, it differs with each one of them. As there are twelve, it is important that the student be familiar with the contents and structure of each one of them, before

commencing the study of harmony. We shall therefore examine them in the next chapter.

QUESTIONS.

Between which sounds of the diatonic scale of C do the other five semitones intervene?

Of what use is the *sharp?*

What is the chromatic scale?

Of what use is the *flat?*

How do the ascending and descending chromatic scales differ in writing?

What is a natural?

What is the enharmonic scale?

Which kinds of scales are the same in all keys?

Which kind occurs only in theory?

How many diatonic scales are there?

EXERCISES.

7. Write the ascending chromatic scale, in the key of C, in the G clef.

8. Write the descending chromatic scale of C, in the bass clef including three C's.

9. Write the enharmonic scale, in the bass clef, descending.

10. Write the note A in three different ways.

11. Write the note C in three different ways.

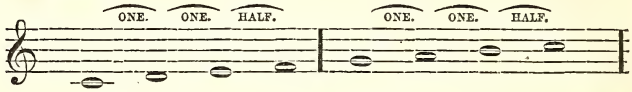
CHAPTER III.

DIATONIC SCALES, MAJOR AND MINOR.

The diatonic scale is the groundwork of all rules of harmony, and of the whole system of harmonic combinations. We must therefore examine it more closely, with a view to learn its construction in all the different keys

Construction of all Diatonic Scales. Let us take the diatonic scale of C. We have seen in the last chapter that F is only a semitone removed from E, and also C from B; but that the other sounds are a whole tone from each other. The diatonic scale can therefore be divided into two parts, each consisting of two tones and a semitone; and the two parts are removed a whole tone from each other; as is represented in the following figure.

FIG. 12.



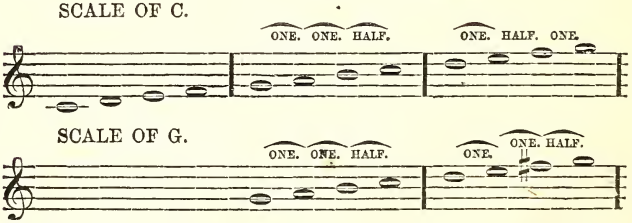
Tonic and Dominant. The sound which commences the first half is called the *Tonic,* that which commences the second half the *Dominant.*

Degrees of the Scale. The successive sounds are also called *degrees* of the scale,* and are numbered and named accordingly. Thus, C is the *first* degree of the scale of C, E the *third* degree, A the *sixth*, and so on. The *dominant* is therefore the *fifth* of the scale.

Fig. 12 represents the construction of every diatonic scale, whichever of the twelve semitones we take as the key-note. We can therefore on the same principle form the other eleven scales.

For instance suppose we wish to form the diatonic scale of G. The first half will begin upon G, the second half upon D, the fifth degree, or dominant. We must take care that each half shall consist of two tones and a semitone; and, if it becomes necessary, a sharp or flat must be introduced to produce this result.

FIG. 13.

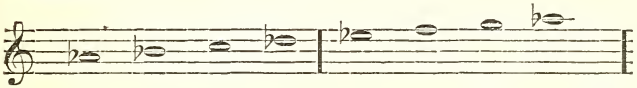


* Hereafter, when we speak simply of the *scale*, we mean of course the *diatonic scale.*

Here it will be seen that the degrees of the scale of G correspond exactly with those of the scale of C, until we come to its seventh degree, F, which ought to be a whole tone from the sixth degree, E; whereas F is but a half-tone from E. F must therefore be raised a half-tone by means of a sharp, and this will also produce the required distance from the seventh to the eighth degrees.

To take one more instance, suppose we are to form the scale of *A flat.*

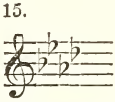
FIG. 14.



We shall find here that four flats will have to be used. For instance, B is a tone and a half from A flat, and must therefore be lowered a semitone to make it but one tone. In like manner, D, the fourth degree, is a whole tone from C, the third, whereas we require but a half-tone. This must also be lowered accordingly; and so on. This matter will become clear by consulting the keys of the piano-forte.

When we wish to write down a melody in any key, in A flat for instance, we do not write a flat before every A, B, D and E that occurs, but to simplify the notation, we place the requisite number of flats at the beginning of each staff, in their proper position, thus:

FIG. 15.



which means that all A's, B's, D's and E's that occur, are to be played or sung A flat, B flat, &c.

The requisite number of flats or sharps for each particular key are called the *Signatures* of that key. It is important that the student should make himself familiar with the signatures of every key.* Signatures.

A piece is sometimes written partly in one key and partly in another — that is, permitted to leave the original key for a while, though it must afterwards return to it. This is called *Modulation.* There will occur, in this case, notes foreign to the key denoted by the signatures, Modulation.

* The order in which the signatures are usually arranged upon the staff will be learned by observation and experience.

Accidentals. which will have to be represented accordingly by additional flats, sharps, or naturals, as the case may be. They are then called *Accidentals.* They are placed, however, not at the commencement of the staff, like the signatures, but with each note as it occurs. So with the chromatic scale.

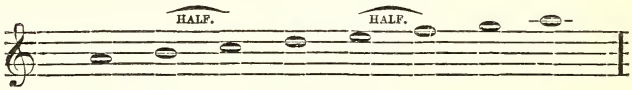
Kindred Keys. Those keys which have the most tones and semitones in common, are called *kindred* keys. Thus, the kindred keys of C are those of G, F, and so on.

Minor Scale. The diatonic scale which we have treated thus far is called the *major* scale. But every *major* scale has its so-called *parallel minor* scale.

It will often be found that a melody contains all the seven sounds of a major key, but the key-note, that is, the first and last of the melody, is the *sixth* degree of the major scale, instead of the *tonic.* Observe, then, that in this case the *sixth* degree becomes the tonic, and the melody must finish with it. As this minor scale contains the same tones as the parallel major scale, it must have the *same signatures.* For instance, take the scale of C. Its sixth degree, A, becomes the tonic of the parallel minor scale, which, like the major scale of C, will require no signatures.

FIG. 16.

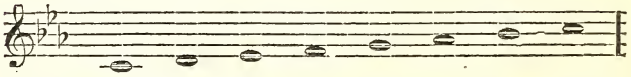
SCALE OF *A MINOR.*



Of course the relative position of the whole tones and half-tones becomes altered in the minor scale. The half-tones here occur between the *second and third* degrees, and between the *fifth and sixth,* as will be seen in the above figure.

To take another instance: the major scale of E flat requires three flats, B flat, E flat, and A flat. Its sixth degree, C, becomes the tonic of the parallel minor scale.

FIG. 17.



We shall find, in Part II, that the rules of harmony require one degree of the minor scale to be altered

Other tones are also sometimes altered for the purposes of melody. But the essential elements of the minor scale, and of its parallel major scale, are the same.

QUESTIONS.

How may the diatonic major scale be divided?
What is the tonic?
What is the dominant?
Which is the first degree of the scale of C?
Which is the seventh degree?
Which is the third degree?
Which degree is the dominant?
What is the order of tones and semitones in every diatonic major scale?
What is meant by the signatures of a key?
What is modulation?
What are accidentals?
What is meant by the term *kindred* keys?
How is the parallel minor scale formed from the major scale?
How many diatonic minor scales are there?
Where do the semitones occur in the minor scale?
Which degree of the major scale is the tonic of the parallel minor scale?
What is the tonic of the parallel minor scale of F major? Of A flat major? Of E major? Of G major?
Which degree of the minor scale is the tonic of the parallel major scale?
What is the tonic of the parallel major scale of B minor? Of C minor? Of B flat minor? Of F sharp minor?
What is the dominant of E major?
What is the dominant of C minor?
What is the dominant of G minor?

EXERCISES.

12. Write the diatonic major scale of E flat.
13. " " " F.
14. Write the major scale of D, with the signatures.
15. Write the minor scale of D, with the signatures.
16. Write the signatures of G minor.
17. " " " E major.

18. Write the signatures of B flat major.
19. " " " D minor, in the bass clef.
20. Write the scale of G major, with the signatures, in the bass clef.
21. " " " F sharp minor, in the bass clef, with signatures.
22. " " " E minor, " " " "
23. " " " A major, " " " "
24. Write the ascending chromatic scale, in D major, with the signatures.
25. Write the descending chromatic scale, in G minor, with signatures in the bass clef.
26. Write the descending chromatic scale, in C minor, in the G clef.
27. Write the ascending chromatic scale, in B flat major, in the bass clef.
28. Write the signatures of B major, in the bass clef.
29. " " " F minor, in the G clef.
30. Write the scale of D flat major, in the G clef, with the signatures, including three tonics.

CHAPTER IV.

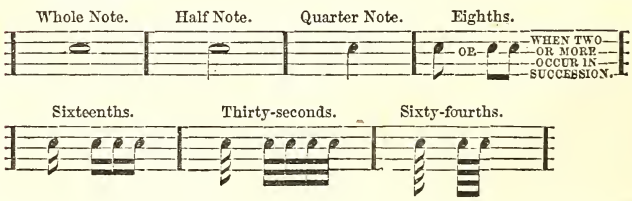
RHYTHM.

We have said that sounds may vary in *length* or *duration*, as well as in *pitch* or *position*. This can also be denoted by notation.

Value of Notes.

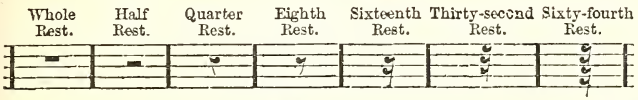
The note, 𝅝, which we have hitherto used, is called a *whole* note. Each whole note may be divided into two halves, each half into two quarters, quarters into eighths, and so on.

FIG. 18.



Each of these has a corresponding sign, called a *Rest*, to be used when a pause occurs in a melody. **Rest.**

FIG. 19.



Music is divided into *Bars* or *Measures*, separated from each other by a perpendicular line, each of which bars must be of the same value in notes and rests. **Bar**

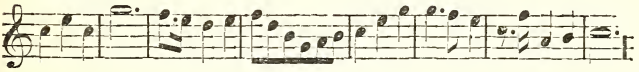
FIG. 20.

FIG. 21.

A dot after a note or rest adds to it half its value. **Dotted Notes and Rests.**

FIG. 22.

FIG. 23.



When there is a pause of a whole bar to be observed, the *whole* rest is always used to denote it, whatever be the value of notes required in each bar. **Whole Rest.**

FIG. 24.

As may be seen from the foregoing examples, we may assume any

length or value we please for each bar, taking care that it be uniform throughout.

Counts.

In order to ensure this uniformity, and make it more perceptible to the ear, music is counted by regular beats, like the strokes of a pendulum. Each count may represent any kind of note we please, and the number of counts in each bar is also optional. But this must always be denoted at the beginning of every piece by two figures, placed immediately after the signatures, the upper figure denoting the number of counts in each bar, and the lower the kind of note which each count represents.

How indicated.

FIG. 25.

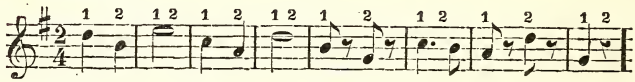
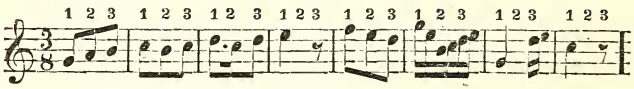


FIG. 26.



In 25, the figure 2 indicates the number of counts in each bar, and 4 the kind of note represented by them.

In 26, the figures indicate that three eighth-notes are to be counted in each bar.

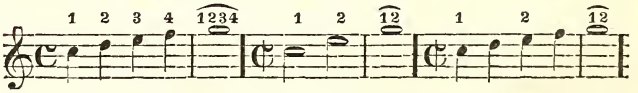
Common Time.

The rhythm, where four quarter-notes are counted in each bar, is the most common of all, and is hence called *Common Time.* It is, however, always represented by this character, 𝐂, instead of by the figures $\frac{4}{4}$.

Alla Breve.

In like manner, the same character is used with a line drawn through it instead of the figures $\frac{2}{2}$, and called *Alla Breve.*

FIG. 27.



It will be observed that these differ only in the method of counting and not in the value of each bar.

NOTE Now that we have learned the use of bars, we would mention that *accidentals*, (explained in the last chapter,) are good throughout one bar, and no further. They must therefore be repeated in each bar if the altered note is to be continued, or corrected by a natural if the note is to be restored in the same bar. Accidentals good through one bar.

When the upper figure is an *even* number, that is, when there are an *even* number of counts in each bar, the rhythm is said to be *direct;* and when *odd, indirect.* Of the latter, only the numbers 3 and 9 will ever be met with. Direct and Indirect Rhythm.

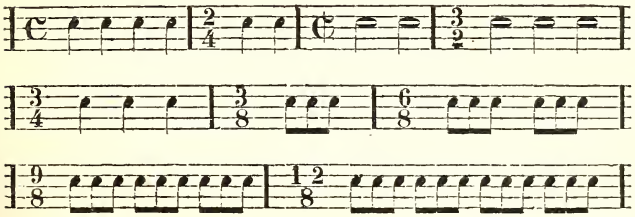
A *primary* accent always occurs at the beginning of each bar, on the first count. When the movement in which a piece is played is *moderately* quick, a *secondary* accent falls on the middle of the bar, provided the rhythm be *direct.* (In *indirect* rhythm there can evidently be no secondary accent.) If the movement be very slow, these accents may be again sub-divided. Or, if it be very quick, a primary accent can only fall upon every other bar, and a secondary accent upon the alternate bars. This, however, is a matter which the musical feeling of the student will make more intelligible to him than can be done by explanation. Accent.

A piece may begin with a half, or any fraction of a bar; that is, with an accented or unaccented note.

The sign 𝄐, called a *Hold*, over a note or rest, means that it is to be held indefinitely, without any regard to time.

The following are the kinds of rhythm most usually occurring in practice.

FIG. 28.

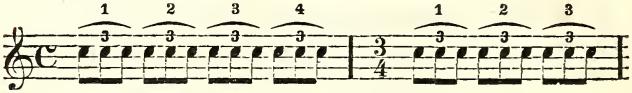


Cases often occur where a note is divided into *three*, instead of two, of the next lower order of notes. A quarter-note, for example, can be di- Triplets.

vided into *three* eighths. They are then called *Triplets*, and the figure 3 is generally placed over the group.

Thus, a bar of common time may be filled out so as to have the same effect as $\frac{12}{8}$ time, or $\frac{3}{4}$ time that of $\frac{9}{8}$.

FIG. 29.



These, however, are exceptions, and their use will only be learned by experience.

Tempo We have alluded above to the *movement* in which a piece is performed. This can only be partially indicated, that is, whether the piece shall be played more or less rapidly or slowly; the rest is left to the performer's taste and discretion. It is done by means of the Italian words, *Andante, Adagio, Allegro, Presto*, &c., &c., which, together with other terms, having reference to the style and expression to be observed, are written at the commencement of every piece. It is called *Tempo*. The terms most in use, as well as their effect, will be learned best by experience. We shall therefore dispense with an enumerated list of them, referring the student to his musical vocabulary.

QUESTIONS.

How are notes divided?
Of what use is the *rest*?
What is the bar used for?
How does a dot affect a note or rest?
How is a pause of a whole bar denoted?
How is the time, or method of counting a piece, indicated?
Where are the figures placed on the staff?
What is common time?
How many half-notes in a bar in alla breve rhythm?
How many quarter-notes?
How long is an accidental to be observed?
What is direct rhythm?
What is indirect rhythm?
Where does the primary accent fall in moderate movements?
Where in rapid movements?

Which kind of rhythm has no secondary accent?
What are triplets?
What effect may be given to a bar of common time?
What is meant by the *tempo* of a piece?

EXERCISES.

31. Write a bar of sixteenths in $\frac{6}{8}$ rhythm, with the counts.
32. " " eighths " *alla breve* rhythm, with the counts.
33. " " half-notes " common time, " "
34. " " thirty-seconds in $\frac{2}{4}$ time, " "
35. " " $\frac{3}{8}$ time, using triplets, " "
36. " " $\frac{3}{4}$ " in sixteenths, " "
37. " " $\frac{9}{8}$ " in quarter-notes, " "
38. " " $\frac{2}{4}$ " in half-notes, " "
39. " " $\mathbf{C}$ " in alternate quarter-notes and rests.
40. " " $\frac{2}{4}$ " " sixteenth-notes and rests.

NOTE. We have now finished the subject of notation, and the student is warned not to commence the subject of harmony until he is perfectly familiar with the matter contained in the foregoing chapters. To his special attention we would recommend familiarity with the clefs, and the twelve diatonic major and minor scales, with their proper signatures, and the position of the semitones in each. It is true that some keys are much more common than others; yet he who aims at a thorough musical knowledge should be able readily to transpose from one key into all others.

We shall make use of the scale of C for the most part in our future examples, as being the simplest as regards notation. But the student must be careful not to identify the rules of Harmony too closely with that key, and remember that what is true of one scale is true of another; and that when we speak simply of the scale, we mean the diatonic scale of every key, without reference to *tonality*.

PART II.

HARMONY.

HARMONY.

INTRODUCTION.

The question is often asked by persons unskilled in music, how one can learn to write it *by rule*. This confusion of ideas arises from their not making a proper distinction between *melody* and *harmony*. The former consists of a succession of *single* musical tones, of greater or less duration, following each other in a certain metrical regularity, and expressive of the thoughts of the composer. It is evident that such a train of musical ideas cannot be subjected to any law, any more than the author of a literary work is accountable to rules for the production of his brain. They are the result of inspiration only. The *few* points connected with the subject of melody, which are in the slightest degree capable of being systematized, are rather more matters of innate musical feeling, than arbitrary rules; and, such as they are, constitute a totally different branch of musical science, (that of *Musical Form*,) with which we have nothing to do in the present work.

It will be found, however, by listening to any musical composition whatever, that the ear is not taking in merely this succession of *single* musical sounds which form the melody, but that other tones are heard together with each individual tone of the melody, produced by one or more human voices, or by accompanying instruments. It is this combination of sounds which constitutes harmony. Even when a melody is performed alone by itself, a musical ear naturally supplies these combinations, which are heard in the imagination. So that every melody *must* be founded upon harmonic combinations, and the ear cannot avoid them.

Now it is clear that out of the various combinations that can be produced with all the tones of which we have any knowledge, some will

have an agreeable effect upon the ear, and others not — that the former may be called *legal*, the latter *illegal*. Hence arise *rules*, by which these harmonic combinations must be governed. What these rules are, it is the object of the remainder of this little work to investigate. And, in the first place, we shall proceed to inquire what the tones are which we have at our command for forming harmonic combinations.

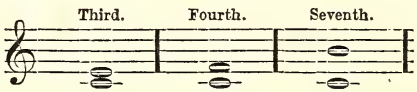
CHAPTER I.

INTERVALS.

Interval. The distance between two degrees of the scale is called an *Interval*.

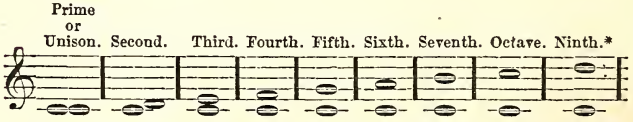
How named. An interval receives its name by reckoning the number of degrees from the lower to the upper of the two which contain it, and counting the first as one.

FIG. 30.



The intervals of the major scale complete are therefore denominated as follows:

FIG. 31.



* The repetition of the *second*, for harmonic purposes, is usually treated as a *ninth*, as will be seen hereafter.

Perfect and Major Intervals.

The Unison, Fourth, Fifth, and Octave, are called *Perfect* intervals.

The Second, Third, Sixth, Seventh, and Ninth, are called *Major* intervals.

When we wish to modulate, and thereby alter the degrees of the major scale by means of accidentals, the altered intervals receive modified names, and become either *Minor*, *Augmented*, or *Diminished*.

Minor Interval.

A *minor* interval is formed *only* from a *major*, by lowering the upper degree a half-tone.

FIG. 32.

Or in the key of D major,

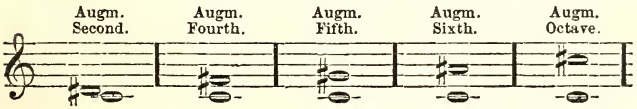
FIG. 33.

Augmented Interval.

An *augmented* interval is formed both from the *major* and *perfect* intervals, by raising the upper degree a half-tone.

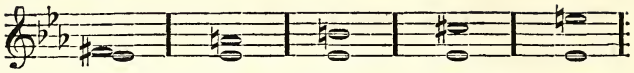
But augmented thirds and sevenths never occur.

FIG. 34.



The same in the key of E flat.

FIG. 35.

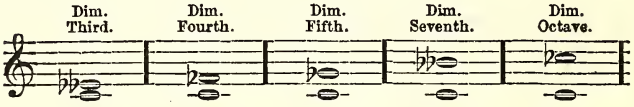


Diminished Intervals.

A *diminished* interval is formed from a *minor* or *perfect* interval, by lowering the *upper* degree a half-tone.

Diminished seconds and sixths do not occur.

FIG. 36.



In accordance with the above, the student must be careful to make a distinction between changing a tone by means of an accidental, and changing it by moving to the next degree of the scale. For instance:

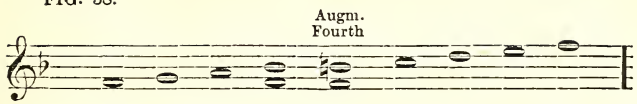
FIG. 37.

in *a*, the interval is a *minor sixth*; in *b*, it is an *augmented fifth*. Though the two intervals produce the same sound upon the piano-forte, yet theoretically they are different. (See Part I, Chap. 2.)

Intervals between different degrees of the Scale.

In reckoning the kind of interval between any two degrees of the scale other than the tonic, we must regard the lower degree as a new tonic, and reckon as if the upper were a degree of the new scale. For instance, if we wish to know the interval between the fourth and seventh degrees of the scale of C, that is, between F and B, regard F as a new tonic, and we shall find that B is an *augmented* fourth, B flat being the perfect fourth in the scale of F, as may be seen in the following example.

FIG. 38.



So it will be found that in a major scale, from the third to the octave is a minor sixth. In C, for instance, taking E as a tonic, C sharp and not C is the sixth degree of its scale, C must therefore be at a minor interval from E.

It is important that the student be familiar with the different relations which the degrees of the scale bear to each other, as well as to the tonic.

Inverted Interval.

An interval is said to be *inverted*, when the upper degree is transferred an octave lower.

FIG. 39.

It will be seen that a prime inverted becomes an octave, a second a seventh, and so on, as in the following table:

1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1

NOTE 1. The same method can be used here for reckoning the inverted interval, as above in reckoning from one degree to another; that is, regard the lower note as a new tonic.

NOTE 2. An inverted ninth is but a second again.

But it will be found that the character of some intervals becomes altered by inversion, as, for instance, a *major* third becomes a *minor* sixth.

In this respect the following rule will hold good:

By inversion, major intervals become minor.
minor " " major.

By inversion, augmented intervals become diminished.
diminished " " augmented.
perfect " *remain perfect.*

Hence arose the name *perfect intervals.*

Sub-Dominant. The *fourth* degree of the scale is called the *Sub-Dominant*, because when inverted it is a fifth *below* the tonic, as the dominant is a fifth *above.*

Consonance The perfect intervals are called *Perfect Consonances.*

and Thirds and Sixths, both major and minor, are called *Imperfect Consonances.*

Dissonance All other intervals are *Dissonances.*

(The meaning of these terms will be better understood hereafter.)

QUESTIONS.

What is an interval?
How is an interval reckoned?
How many kinds of intervals are there?
Which are the perfect intervals in the major scale?
Which the major intervals?
How is a minor interval formed?
What kind of intervals may become augmented? and how?
What augmented intervals are met with in practice?
From what kind of intervals may diminished intervals be formed? and how?
What is the interval between the second and fifth degrees of the scale?
Between the second and seventh?
Is the interval major or minor between the fourth and sixth degrees of the scale?
Which is it between the second and fourth degrees?
What is an inverted interval?
How does inversion affect the different intervals?
What does a perfect fourth become by inversion?

What does a minor third become by inversion?
" " an octave " "
" " a diminished seventh "
" " major seventh "
Why are the *perfect* intervals so called?
What is the sub-dominant?
Why is it so called?
How are consonances divided?
Which are the perfect consonances?
Which the imperfect?

EXERCISES.

41. Write the perfect intervals of the scale of B flat major.
42. " " major " " " D "
43. " " diminished " " " E flat "
44 " " augmented " " " C "
45. " " minor " " " G "
46. " " major " " " A "
47. " " perfect " in F major, and invert them.
48. " " major " D flat " " "
49. " " augmented " E " " "
50. " " minor " B " " "
51. " " diminished " G " " "
52. " " minor " F " " "
53. " " imperfect consonances of the key of A.
54. " " perfect " " " G.
55. " " " " " " A flat.

CHAPTER II.

PRINCIPAL CHORDS OF THE MAJOR SCALE.

A chord is a combination of three or more tones, sounded together. Chord.

Every chord must be conceived of as built upon a certain

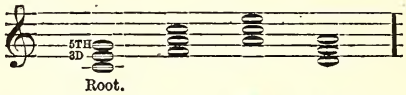
Root. tone, called the *base*, *fundamental tone*, or *root* of the chord, by adding to it certain others.

The base is of course the lowest tone, and the chord is built upward from below.

Triad or Common Chord. The simplest chord of all is formed from a tone by adding to it its *third* and *fifth*.

This is called the *Triad*, or *Common Chord*, and from it all other chords are derived.

FIG. 40.



Names of Chords. Every chord is named from its root. These, therefore, are the common chords or triads of C, F, A, and D, respectively.

The above chords will, however, be found to differ in one respect. Those of C and F have *major* thirds, while those of A and D have *minor* thirds.

Major and Minor Triad. A triad with a major third is called a *major triad.*

A triad with a minor third is called a *minor triad.*

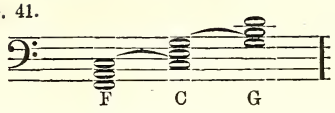
Of all the chords of the diatonic scale, there are three which require special attention, and we shall adduce several reasons to show that they are the most important of all.

Chords of the Tonic, Dominant, and Sub-Dominant. The principal chords of the scale are those of the *tonic*, *dominant* and *sub-dominant.*

These, then, in the key of C, will be the chords of C, G and F.

Their intimate connection. FIRSTLY. They have a natural connection, being built one upon the other.

FIG. 41.



C, the root of the tonic chord, becomes the fifth of that of the subdominant, and G, the fifth of the tonic chord, becomes the root of that of the dominant. Thus it will be seen that these chords are intimately connected.

SECONDLY. These three chords contain all the degrees of the scale. They form, therefore, its groundwork, and are the most frequently used, because they serve so perfectly to represent the key of a piece of music, and fix in the mind the idea of tonality. Groundwork of the Scale.

THIRDLY. A proof of their importance lies in their simplicity. Music of the simplest kind, and of a light character, (such as dance-music,) which from its nature does not require complicated harmony, will be found to be grounded almost exclusively upon the harmony of these three chords. Their simplicity.

FOURTHLY. If we build chords upon each degree of the major scale, we shall find that these are the only major triads. All the rest are minor. The only Major Triads of the Major Scale.

FIFTHLY. They are used in making *cadences*, of which hereafter. Cadences.

Harmony is usually conceived of and written in *four* parts. One interval of the triad must therefore be doubled. Harmony in four parts.

The tone most usually doubled is the root, making an octave. The fifth is less often doubled, and the third less often still. One Interval doubled

FIG. 42.

In theory we usually consider harmony as written for four voices, each voice singing one tone of the chord. Each part has a distinct name. Of the two extreme or outer parts, the lowest, that which takes the root of the chord, is called *Bass*. The higher, that which performs the melody, is called *Soprano*. Of the two middle parts, that next to the bass is called *Tenor*, and that next the soprano, *Alto*. Names of the four voices or parts.

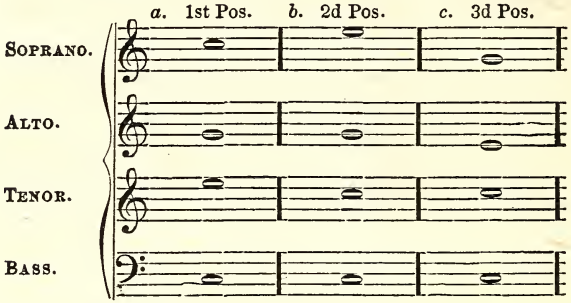
Three positions.

Either tone of the chord may be taken as the melody, that is, for the soprano voice; and according as the *octave*, *third* or *fifth* is so taken, the chord is said to be in the 1st, 2d or 3d position respectively. The distribution of the alto and tenor parts is also optional.

Writing in Score.

Usually a different staff is taken for each voice, which is called writing *in score*. Thus:

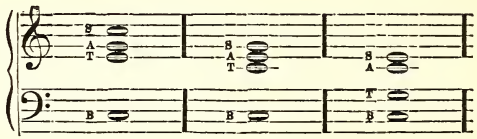
FIG. 43.



Note. It must be remembered that the tenor voice sings an octave lower than where it is written. For instance, in *a* in the above figure, the tenor lies apparently above the soprano; but it is in reality the same E which, in letter *c*, lies in the alto part.

We shall hereafter, for convenience, use only two staves, as music is written for the piano-forte. Thus:

FIG. 44.



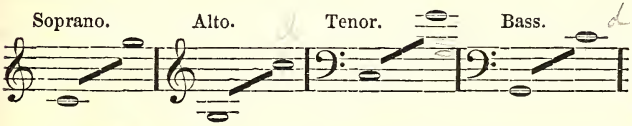
but the student must be able to write all the examples in score.

Distribution of the chord.

We have said it was optional how the tones of a chord were distri buted among the three upper parts. But they must lie within the ordi

nary compass of those voices, as indicated in the following table, avoiding too frequent use of the extreme tones.

FIG. 45.



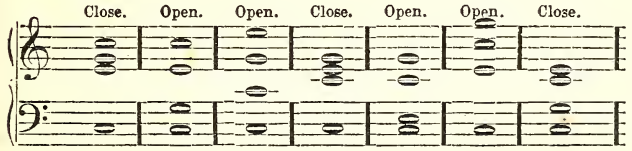
Not more than an *octave* should intervene between any two parts, excepting between tenor and bass.

Close and Open Position.

When all three of the upper parts lie within the compass of one octave, the harmony is said to be in a *close* position; when not, it is called an *open* or *dispersed* position. In a succession of chords, (of which hereafter,) a mingling of both kinds has the better effect.

The following example shows some of the more common positions of a chord, both *open* and *close*.

FIG. 46.



In closing this chapter, we cannot urge too strongly upon the student the importance of the three chords of the tonic, dominant and sub-dominant. He should be able to recognize them at once in all the different keys, before going on to the next chapter.

QUESTIONS.

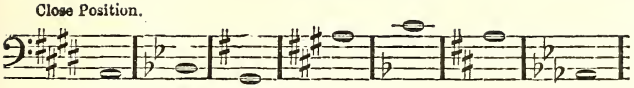
What is a chord?
What is the root of a chord?
How is a chord formed?
Of what intervals is the common chord or triad composed?
How are chords named?
What is the meaning of *major* and *minor* triads?
Which are the three principal chords of the scale?

What facts give them their importance?
In how many parts is harmony usually written?
Which interval is most frequently doubled?
What are the names of the four voices?
Which takes the melody?
Which the root?
Which tone lies in the melody when the chord is in the 3d position?
Which, when it is in the 1st?
What is meant by writing in score?
What alteration is made in writing the tenor part?
What rules can be given for the distribution of the tones of a chord?
What is meant by a close position?
When is a chord in the open position?

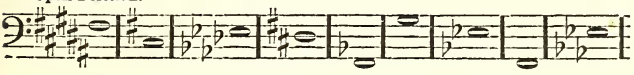
EXERCISES.

56. Write the simple triads of the tonic, dominant and sub-dominant of the scale of C, without doubling.
57. The same in E flat.
58. Write the chord of the sub-dominant in the key of F.
59. " " " dominant in A.
60. " " " sub-dominant in B flat.
61. " " " tonic in D.
62. Write the chord of C in four parts, in three close positions, using two staves.
63. The same with the dominant of G.
64. Write the chord of A in three open positions.
65. The same with the sub-dominant of E flat.
66. Write the chord of F in score, (open pos.) with the 5th in the melody.
67. Write the chord of E in score, (open pos.) with the 5th in the melody.
68. Write the chord of G in score, (open pos.) with the 3d in the melody.
69. Write the chord of C in score, (open pos.) with the 3d in the melody.
70. Write the chord of D in score, (close pos.) with the 3d in the melody.
71. Write chords to the following bass, with the names of each chord according to the key denoted by the signatures. Use two staves and put the octave in the soprano voice.

Close Position.



Open Position.



CHAPTER III.

PROGRESSION.

The laws of harmony require that every chord be considered not merely by itself, but also as connected with the chords that precede and follow it.

In a succession of harmonies, the chords must move smoothly and easily from one to another, and each part perform a smooth and flowing melody by itself, as well as blend well with the other three. Hence arise rules. Progression.

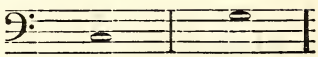
This movement of one chord to another is called *Progression.*

We have shown in the preceding chapter that either tone of a chord may be taken for the melody. A pleasing variety is therefore obtained by taking sometimes the third, sometimes the fifth, and so on; but never (or very rarely) the same interval twice in succession.

Rule I. When two successive chords have a tone in common, it must be retained in the same voice in both, that they may be well connected. The other parts move to the nearest tone. Connection of Chords.

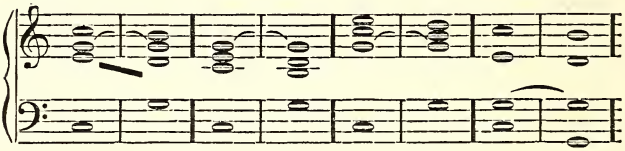
For instance, suppose we wish the chord of the dominant to follow that of the tonic, or in other words to write harmony to the bass:

FIG. 47.



We find according to Fig. 41, (chap. II.) that the tone G is common to both chords. The voice which takes G, or the fifth, in the first chord, then, must retain it in the second chord, where it becomes the octave.

FIG. 48.



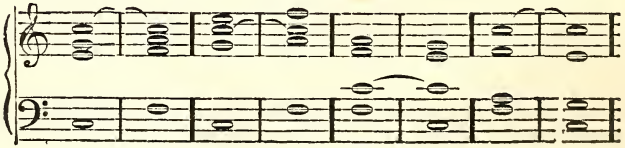
It will be seen that the observance of this rule not only serves to connect the chords, but gives variety to the harmony, by causing each voice to take different intervals in each chord. For instance, in the first chord in Fig. 48, the tenor takes the third and the soprano the octave; in the second, the tenor the fifth and the soprano the third; while the alto voice has the connecting tone, which is in the 1st chord the fifth, in the second the octave.

Again, if we have the bass:

FIG. 49.

we find in Fig. 41 that C belongs to both chords. We write the harmony thus, then:

FIG. 50.



Rule. 2. When two successive chords have *no* tone in common, the voices must move in such a way that *parallel* (or *consecutive*) fifths and octaves shall not occur. Consecutive Fifths and Octaves.

Two voices may move in *parallel* (or *direct*), in *contrary*, or in *oblique* motion to each other. Parallel, Contrary, and Oblique Motion.

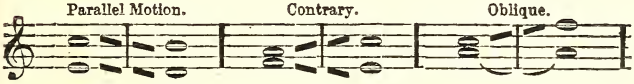
Parallel motion occurs when both ascend or descend at the same time.

Contrary motion, when one ascends and the other descends.

Oblique motion, when one moves and the other remains stationary.

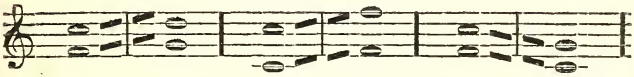
For example:

FIG. 51.



Parallel or consecutive fifths and octaves, mentioned in the above rule, are such as these:

FIG. 52.



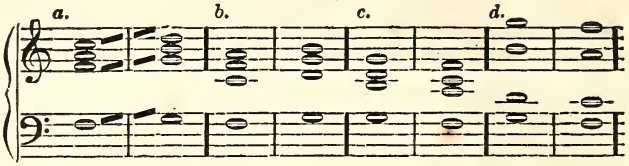
These are *strictly* and *invariably* to be avoided.

Suppose now we have the bass:

FIG. 53.

that is, the chords of the dominant and sub-dominant shall follow each other. We have seen that they have no tones in common, and there is therefore increased danger of consecutive fifths and octaves. The following and similar progressions are consequently *erroneous*.

FIG. 54.

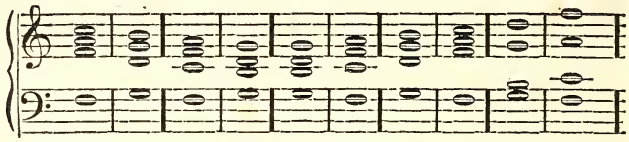


In *a*, consecutive fifths occur between soprano and tenor, and consecutive octaves between tenor and bass; in *b*, fifths occur between tenor and bass, and octaves between alto and bass; and so on.

Consecutive Fifths and Octaves, how avoided.

This error can always be avoided by making use of what we have described as *contrary motion;* that is, let all the parts move in contrary motion to the bass. Besides the advantage of avoiding fifths, contrary motion has always an agreeable effect upon the ear.

FIG. 55.



NOTE. The importance of the three chords we are at present treating being so great, the student would do well to note in his mind every fact connected with them. Let him remember, then, that the tonic in the scale connects its chord with that of the sub-dominant; while the dominant connects *its* chord with that of the tonic. The dominant chord, therefore, bears the same relation to the tonic chord, that the tonic chord does to the sub-dominant chord. The more thorough his acquaintance with the relations of these chords to each other, the more skilfully he will be able to manage harmonic changes and modulations, when further advanced

Leading Tone.

RULE. 3. The natural progression of the 7th degree of the scale, when it appears as the third in the dominant chord, is to the tonic.

In accordance with this rule, it will always be found, that the chord which follows a dominant chord, will be one which shall contain the tonic of the scale, either as third, fifth or octave. This peculiar tendency of the 7th degree, of which every musical ear will sooner or later be-

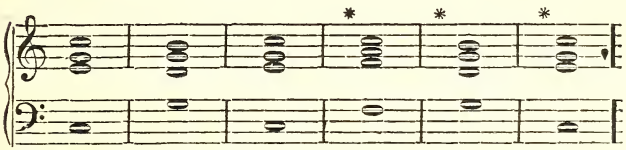
some sensible, gives it the name of the *leading-tone.* The feeling of satisfactory termination, as it were, which this progression gives to every piece of music, is perhaps a sufficient explanation of it; and this leads us to the subject of *Cadences.*

A *cadence* may be simply defined as the conclusion of a piece, or of a section of a piece. Cadence.

As every simple melody finishes with the tonic,* so the concluding harmony should be the chord of the tonic.

The last chord but one must generally be that of the *dominant;* preceded by that of the *sub-dominant.* The following is the most common form of a cadence.

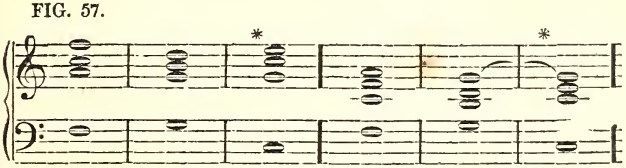
FIG. 56.



This is called the *authentic* cadence. Authentic Cadence.

Though the last chord must invariably be that of the tonic, yet the melody is sometimes allowed to finish upon some other interval. The cadence is then called *imperfect.* Thus: Imperfect Cadence.

FIG. 57.



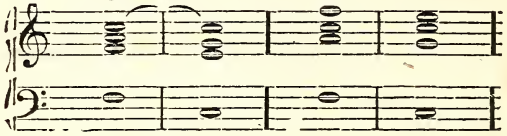
* We have stated in the commencement of this work that a melody generally *begins* upon the tonic also. The student will, perhaps, upon trial, be surprised at the number of exceptions he will find to this law; so many, in fact, as apparently to destroy the law altogether. Without denying the existence of these, we still maintain that the law holds good; and certain it is, that, however it may be with the first tone of the melody itself, the harmony upon which it is grounded is almost *invariably* that of the tonic.

Plagal Cadence.

Another form of cadence is where the dominant chord is omitted, and the tonic chord immediately preceded by the sub-dominant. This is called the *plagal* cadence. It is, however, much less frequently used than the authentic.

FIG. 58.

Plagal Cadence.



There are also other forms of cadences, which we shall learn here-after.

QUESTIONS.

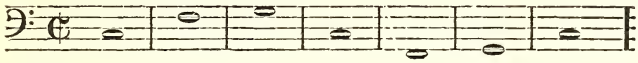
What is meant by progression?
How must chords move from one to another?
How may variety be produced in chords?
What is the rule for connecting chords together?
What is parallel motion?
What is oblique motion?
What is contrary motion?
What is meant by consecutive fifths and octaves?
How may they be avoided?
What rule is to be observed when chords have no tone in common?
Which of the three principal chords have no tone in common?
What tone connects the chords of the tonic and dominant?
What tone connects the chords of the tonic and sub-dominant?
Which is the leading-tone of the scale?
What is its natural progression?
What is meant by the term *cadence*?
What is the most common sort of cadence called?
Of what chords is it composed?
When is the authentic cadence said to be imperfect?
What is the last chord but one in the authentic cadence?
What in the plagal cadence?
With what chord must a piece terminate in every kind of cadence?

EXERCISES.

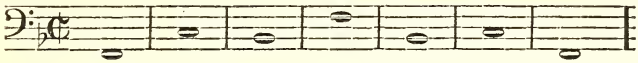
72. Make an authentic cadence in the key of G.
73. " " " " A.
74. " " " " B flat.
75. Make a plagal cadence in D.
76. Make an imperfect cadence in F.
77. " " " G.

Write chords to the following bass, in close positions on two staves.

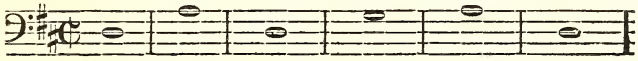
78.



79.



80.



81. With an imperfect cadence.

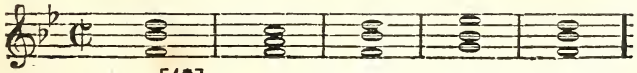
Write the following in open positions, in score.

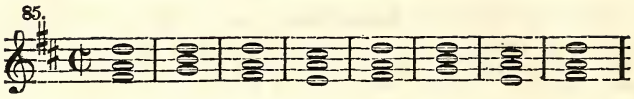
82.

Write the bass to the following chords.

83.

84.





CHAPTER IV.

REMAINING CHORDS OF THE MAJOR SCALE.

We will now form triads upon all the degrees of the scale and examine their character.

FIG. 59.

The chords of the 1st, 4th and 5th degrees have *major* thirds, and have already been discussed.

It will be seen we denote them by large numerals.

Minor Triads of the Scale.

Those of the 2d, 3d, 6th and 7th degrees have *minor* thirds. These we denote by small numerals.

Diminished Triad.

The chord of the 7th degree, however, will be found to differ from all others, in having a *diminished,* instead of a *perfect* fifth; which gives it the name of the *diminished triad.*

This chord we shall make the subject of a separate chapter, on account of its peculiarity.

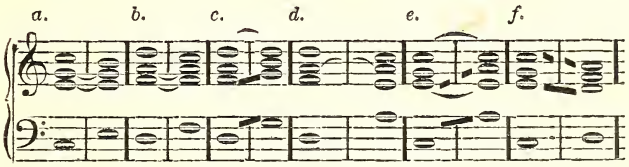
NOTE. We shall in future frequently make use of the method of indicating chords shown in Fig. 59; that is, by placing numerals under the bass-tone, or over the melody.

In writing harmony upon these minor chords, the rules which we have given in the foregoing chapter, with regard to the connecting tone, and the avoiding of consecutive fifths and octaves, are strictly to be observed.

Connecting Tones in different Progressions.

It will be found on examination that when the bass moves more than one degree, there will always be one, sometimes two, connecting tones between the chords. When it moves but one degree, there can be none whatever. This may be seen in the following table.

FIG. 60.



Bass-Progressions.

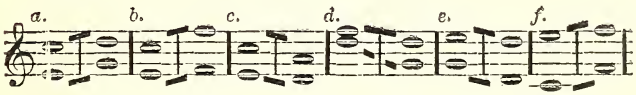
The progressions of a fourth and fifth, as in *c* and *d*, (also when they descend,) are peculiarly *bass-progressions*, as we have seen in the last chapter.

Concealed Fifths and Octaves.

In *c*, *e* and *f*, we find progressions which do not violate any of the foregoing rules, but which, nevertheless, are considered faulty. They contain what are called *concealed* fifths and octaves; which occur when two parts move in parallel motion, and the second *only* of the two intervals is a fifth or an octave.*

For example:

FIG. 61.



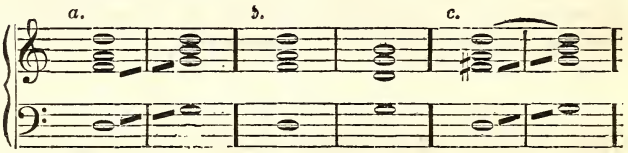
When allowable.

The effect of concealed fifths and octaves is in some cases less disagreeable than in others; as in *f*, in Fig. 61, where the upper part moves but a semitone, and the lower takes a regular bass-progression. In

* The consecutive fifths and octaves, which we have treated in the former chapter, are in contra-distinction called *open* fifths, &c.

that and some other cases, which can only be learned by practice, they are tolerated; but are in general less admissible in the extreme voices (soprano and bass,) than in the middle ones, (tenor and alto). In most cases, they are, if possible, to be avoided, which can almost always be done by contrary motion, even at the expense of the rule for connecting chords.

FIG. 62.

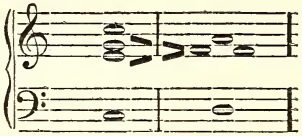


In *a* concealed octaves occur between the tenor and bass, which it is better to avoid by contrary motion, as in *b*, though we do not retain the connecting tone D in the soprano in the second chord, but transfer it to the tenor. In *c* we *may* retain it, the octave effect not being so bad here on account of the half-tone from F sharp to G, though it would have been better if the bass had descended.

Doubling the third.

In *f*, of Fig. 60, it would have been better to double the third in the second chord, in order to avoid the concealed fifths in the soprano and tenor. Thus:

FIG. 63.



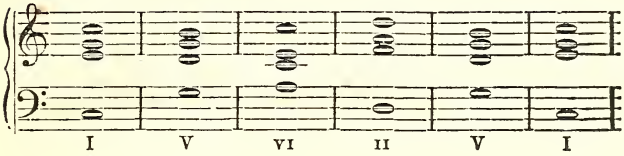
When, however, the third is the *leading-tone*, it should not be doubled.

NOTE. Thus it will be seen there are several points always to be considered in writing harmony; and a skilful management of the four voices with reference to these points, especially when limited to a fixed melody, can only be acquired by experience and long practice, and by listening to the different effects when played or sung. The only plain direction that can be given, is a general observance of the direct rules already laid down, and an evasion of them only in cases of necessity, where a better effect can be produced thereby, and a greater evil avoided, or for the sake of melody.

Another form of cadence is frequently employed, where the chord of the *2d degree* is used instead of the sub-dominant chord, in the last chord but two. For example:

Cadence with the Chord of the 2d degree

FIG. 64.



QUESTIONS.

Which degrees of the scale have minor triads?

How does the triad of the 7th degree differ from others?

What is this triad called?

Under what condition will there always be found connecting tones between two chords?

Which progressions are called bass-progressions?

What is meant by *concealed* fifths and octaves?

In what cases are they more admissible than in others?

How may they always be avoided?

When must the third not be doubled?

What chord may be used for that of the sub-dominant in forming a cadence?

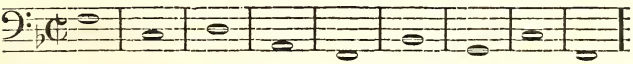
What is the difference between *concealed* and *open* fifths?

EXERCISES.

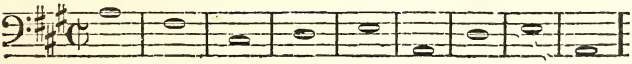
Write chords to the following bass.

86.

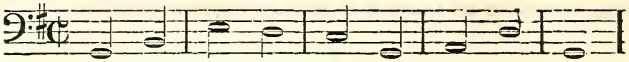
87.



88.

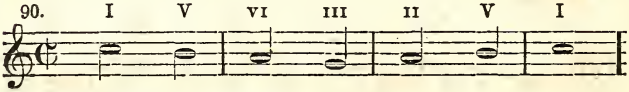


89.



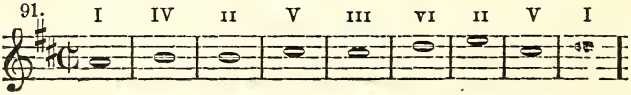
Write the harmony indicated by the numerals to the following melody.

90. I V VI III II V I



The following in score, open position.

91. I IV II V III VI II V I



92. Make a cadence with the chord of the 2d degree, in the key of G.

CHAPTER V.

DIMINISHED TRIAD.

This chord, founded upon the 7th degree of the scale, or leading-tone, contains a diminished fifth, which interval, according to page 28, is a *dissonance.*

Dissonance.

This word we may more particularly define here as an interval which has an unsatisfactory effect upon the ear, unless followed by a *consonance*, which progression is technically called its *resolution.*

Its resolution.

RULE. 4. Every dissonance must be followed by a consonance.

The Diminished Triad less independent than others. Root cannot be doubled.

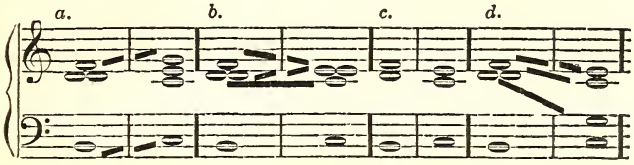
The diminished triad is therefore less independent than the others, and its progression more limited.

In the first place, the root of the chord, being the leading-tone, still

has but one natural progression, (namely, to the tonic,) and cannot therefore be doubled, otherwise consecutive octaves would arise.

Let us now see what the consequence will be if we double the third.

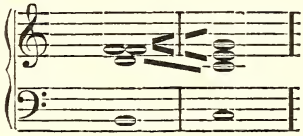
FIG. 65.



In *a*, consecutive fifths must inevitably arise between soprano and bass. In *b*, the effect is the same as if there were only three parts, as in *c*; it is therefore no longer four-part harmony. The progression in *d*, is the only practicable one.

Let us now double the fifth:

FIG. 66.



Here, again, consecutive fifths cannot be avoided.

From the difficulty of managing this chord, and hence from its comparative inutility, it seldom appears in this form. In what form it *does* appear, we shall learn in a subsequent chapter.

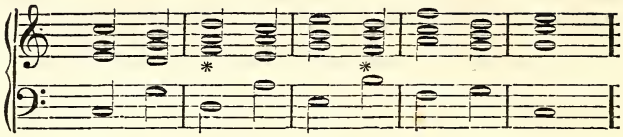
In certain cases, however, the root may be doubled, as, for instance, in a *sequence*.

Sequence

A *Sequence* is a succession of similar harmonies, resulting from a symmetrical progression in the bass.

The following is an example of a sequence, with the allowed case of a doubled leading-tone.

FIG. 67.



Here it will be seen that the bass makes a similar progression in each bar, till we come to the cadence. Such progressions in the bass generally require equally regular progressions in the other parts. For this reason, the D is not retained in the tenor in the third chord of the above figure; and, for the same reason, the leading-tone is doubled in the sixth chord.

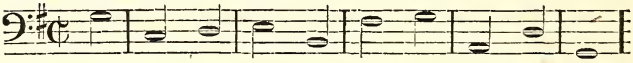
QUESTIONS.

How does the diminished triad differ from others?
What is a dissonance?
What rule is to be observed with regard to it?
What is the progression of a dissonance to a consonance called?
What renders this chord more dependent than others?
In what case may the root of the diminished triad be doubled?
What is meant by a sequence?
How must a sequence in the bass generally be treated?

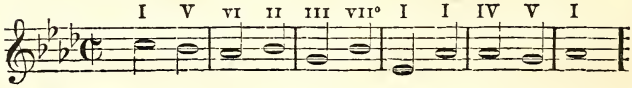
EXERCISES.

93. Write chords to the following bass.

Begin with the 5th in the melody.



94. Write the harmony to the following melody.



CHAPTER VI.

TRIADS OF THE MINOR SCALE.

It will be recollected that the minor scale has in general the **same tones** and semitones with its parallel major scale. Thus:

FIG. 68.

Scale of A minor.

FIG. 69.

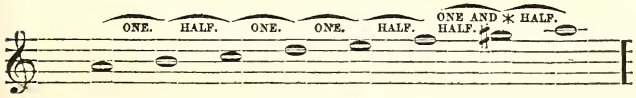
Scale of D minor.

But we mentioned in Part I. that the rules of harmony required one tone to be altered. This is the 7th degree, which, as it now stands, is a whole tone from the octave or 8th degree. It is, however, generally raised a semitone,* in order to give it the character of a *leading-tone*, which the law of cadences requires as well in the minor scale as in the major.

Alteration of the 7th degree of the Minor Scale.

The minor scale, then, considered as the basis of harmonic structure, will stand thus:

FIG. 70.



* This alteration is not, however, denoted by the signatures, which still remain the same with those of the parallel major scale; but by an accidental, so often as that degree occurs.

We will first examine its intervals.

Intervals of the Minor Scale.

The fourth, fifth and octave are still *perfect*, as in the major scale.

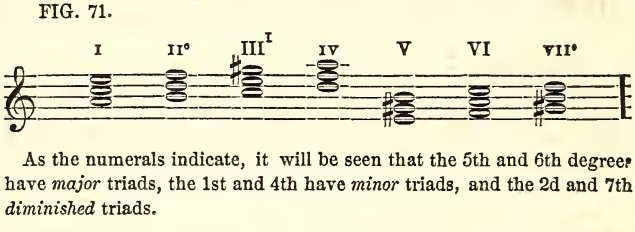
The second and seventh are also *major*, as in the major scale.

The minor scale differs from the major, in having a *minor* third and *minor* sixth.

Triads of the Minor Scale.

Let us now see the character of its chords.

FIG. 71.



As the numerals indicate, it will be seen that the 5th and 6th degrees have *major* triads, the 1st and 4th have *minor* triads, and the 2d and 7th *diminished* triads.

Augmented Triad.

But the 3d degree has a chord entirely new in its form, having a major third and an *augmented* fifth. It is hence called the *augmented triad.*

From the difficulty of management, and the harshness which this chord presents in almost all combinations, it seldom appears; nor is this in general considered the fundamental harmony of the 3d degree of the minor scale, which almost always appears with a perfect fifth.

In the chord of the 3d degree, therefore, in the scale of A minor for instance, the G is generally retained, but in those of the 5th and 7th degrees it is invariably made sharp.

Let the following fact be remembered.

The dominant has a major triad in both major and minor keys.

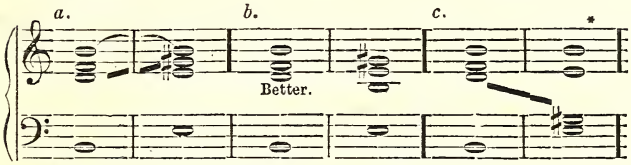
The chords of the tonic and sub-dominant are major in major keys, and minor in minor keys.

Progression of an

The same rules are to be observed in connecting the chords of the minor scale as in those of the major. The only suggestion we would

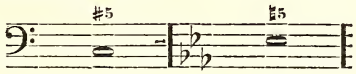
make is to avoid the progression of an *augmented second*, even at the expense of the rule for connecting, as in the following example: Augmented Second to be avoided.

FIG. 72.



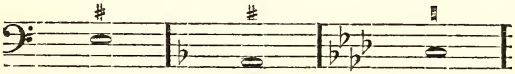
When, in writing chords to a given bass, we wish an interval to be altered from that indicated by the signatures, (as will always be the case with the third *of the dominant* chord in the minor key,) this must always be denoted by placing an accidental over the bass note, with the figure expressing the interval to be altered. For instance, if we wished the chord of the 3d degree with the augmented fifth, we denote it thus: Figured Bass.

FIG. 73.



When the third in the chord is to be altered, the figure 3 is generally omitted, and the accidental alone written over the bass. Thus:

FIG. 74.



QUESTIONS.

Which degree of the minor scale is generally altered?
For what purpose is it altered?
Which intervals are perfect in the minor scale?
Which are major?

---

* With regard to the progression of the tenor voice in *c*, in Fig. 72, we would remark that, in general, harmonic effects are better when chords in close and open positions follow each other promiscuously.

Which are minor?

How do the major and minor scales differ in respect to their intervals?

Which degrees have major triads in the minor scale?

Which have minor triads?

Which diminished?

How does the triad of the 3d degree (minor) differ from all others?

What is generally considered the fundamental harmony of the 3d degree of the minor scale?

How does the dominant chord differ in major and minor keys?

How does the tonic chord differ?

How with the sub-dominant chord?

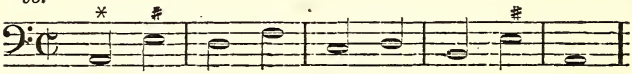
What progression is to be avoided in the minor key?

How is the alteration of an interval indicated in a figured bass?

What does a simple accidental over a bass note denote?

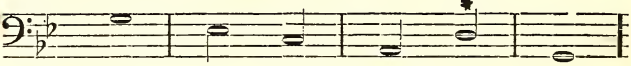
EXERCISES.

95.



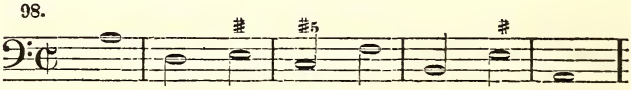
* Third in the melody.

96.

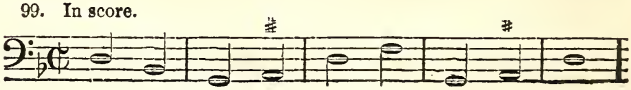


97.

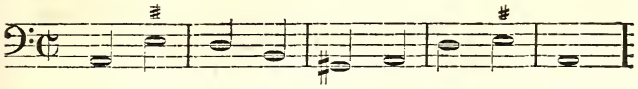
98.



99. In score.

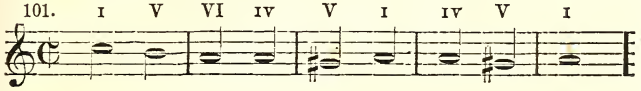


100. In score.

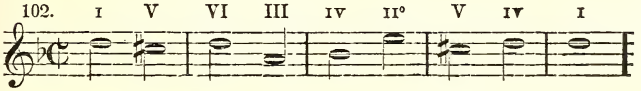


Write harmony to this melody.

101. I V VI IV V I IV V I



102. I V VI III IV II° V IV I



CHAPTER VII.

INVERSION.

We come now to certain modifications of the triad, where it is used under different forms.

Hitherto the root of the chord has always been put in the bass voice, which, we stated in the outset, was the general rule.

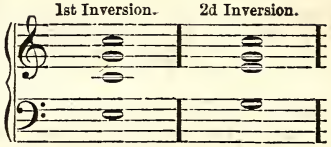
Greater variety in harmony, however, is attained, if we modify this rule occasionally, and suffer the bass voice to take another interval of the chord, as the third or fifth. This is called *Inversion*.

In reading

When the bass takes the *third*, the triad is said to be in the 1*st inversion.*

When it takes the *fifth*, it is called the 2*d inversion.*

FIG. 75.

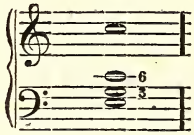


Observe that these are still the chords of C, though the bass note is in one case E, in the other G.

Figuring of Inversions.

It is evident that in a given bass these changes must be denoted, in like manner as the accidental was denoted in the last chapter. For instance, if upon the bass note E, we wish the chord of C, and not the chord of E, we must signify it. This is done by reckoning the intervals of the required chord from the actual bass note, (not from the root) and placing the figures over it.

FIG. 76.



Thus we obtain the figures $\frac{6}{3}$, but for brevity's sake the 3 is generally omitted.

Chord of the Sixth.

When, therefore, a bass note appears with a 6 over it, it indicates that that note is not the root of the required chord, but that we must look for it a third below.

This is called the *Chord of the Sixth.*

If we take the fifth for the bass voice, we obtain the figures $\frac{6}{4}$.

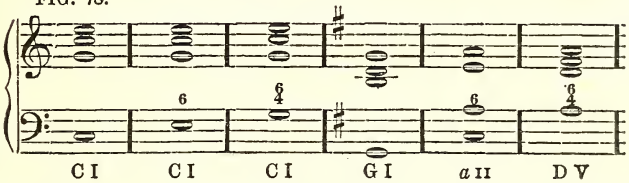
FIG. 77.

When a bass note appears with the figures $\frac{6}{4}$, we must look for the root a fifth below. Chord of the Sixth and Fourth.

This is called the *Chord of the Sixth and Fourth.*

NOTE. Observe that according to the method we employ in denoting chords, numerals and letters *below* a bass note indicate the *root* of the chord, and *figures above*, (or, as it is commonly called, the *figuring* of the chord,) denote the required intervals from the actual bass note. Thus:

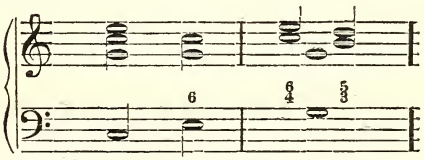
FIG. 78.



Observe also that we indicate major triads by large numerals below, and minor by small.

When we wish two chords to follow each other upon the same bass note, the first of which shall be an inversion, and the other not, the figures $\frac{5}{3}$ must follow the others, in order to indicate this. Thus:

FIG. 79.

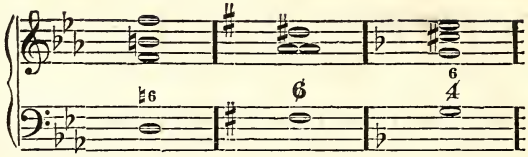


When a chord is *not* inverted, it is said to be in the *fundamental position.* Fundamental Position

Of course, when an interval is to be chromatically altered, (as the 7th degree of the minor scale,) the accidental must be placed before the figure, as in the last chapter.

Sometimes, instead of a *sharp* before the figure, a diagonal line is drawn through it.

FIG. 80.

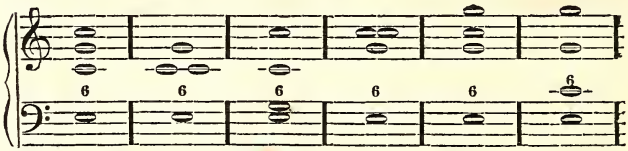


Which Intervals to be doubled in Inversions.

In the chord of the sixth the fundamental tone is still the one usually doubled, as in Chap. II.; sometimes also the fifth.

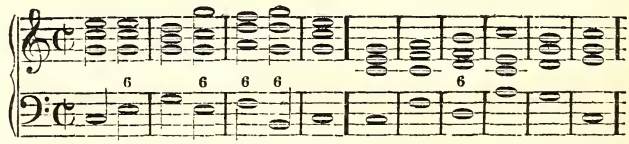
The following are the usual forms in which this inversion appears.

FIG. 81.



Sometimes also the third is doubled, when a smooth progression is produced thereby — better, however, when it lies in the soprano voice, than in either of the middle parts — more frequently also in *minor* than in major triads.

FIG. 82.

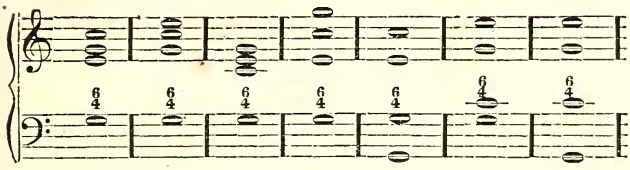


In the chord of the sixth and fourth, the fifth (bass-tone) is almost invariably doubled.

The following are its usual forms:

2nd Inversion used principally in Cadences

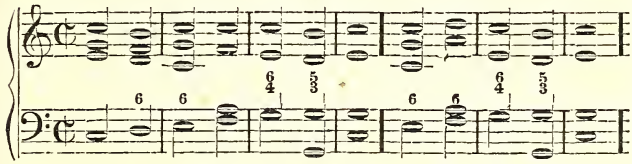
FIG. 83.



The *almost exclusive* use of this inversion is in cadences, where the tonic chord, so inverted, appears between the dominant chord and that of the 2d or 4th degrees (consequently the *last but two*.) Thus:

Use of the 2d Inversion in Cadences.

FIG. 84.



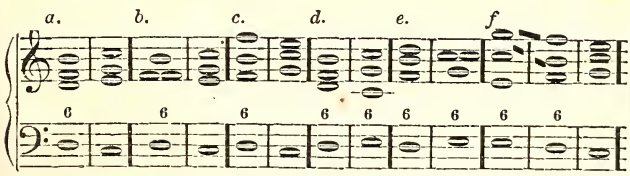
As was remarked in Chap. V., the diminished triad seldom appears in the fundamental position. It is generally used in the 1st inversion (as in the second chord in Fig. 84.) The root, being the leading-tone, is not doubled, but most generally the bass-tone or third — sometimes also the fifth.

Inversions of the Diminished Triad.

The common progression of this chord, when inverted, is still to the tonic chord, either to its fundamental position, or to its 1st inversion. The following are examples of its usual progression:

Its Progressions.

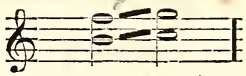
FIG. 85.



The progression marked *f*, in this figure, leads us to remark that consecutive fifths are sometimes allowed, when the first is a *perfect*, and the

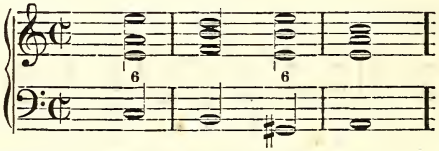
second a *diminished* fifth, but *not vice versa*. The following progression is therefore faulty:

FIG. 86



The diminished triad of the 2d degree of the minor scale allows the root to be doubled, it not being the leading-tone.

FIG. 87.



NOTE. The rule for connecting chords applies to inversions also.

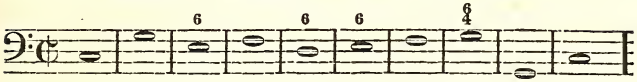
QUESTIONS.

When is a chord said to be inverted?
What is the 1st inversion?
What the second?
How is the first inversion figured?
The second?
Where is the root to be sought in the 1st inversion?
Where in the second?
What is the 1st inversion called?
What the second?
What do figures above a bass note indicate?
What do numerals below it denote?
What is meant by the fundamental position of a chord?
How else may a sharp be denoted in the figuring?
What is the rule for doubling tones in the first inversion?
Which interval is generally doubled in the chord of the sixth and fourth?
How is this inversion commonly used?
Where is its place in an authentic cadence?
In which inversion is the diminished triad commonly used?

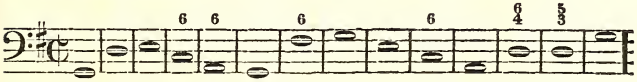
Which interval may be doubled?
What is its common progression when inverted?
When are consecutive fifths allowed?
In what diminished triad may the root be doubled? and why?

EXERCISES.

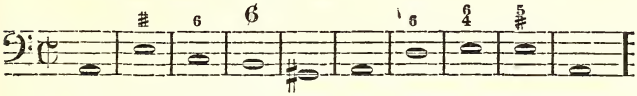
103. Close position. Write the letters and numerals below.



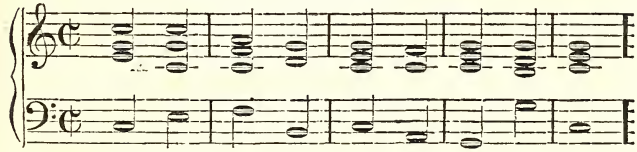
104. The same.



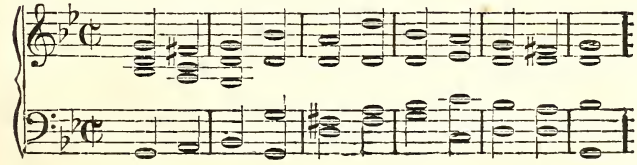
105. Transpose this last (104) into E flat, and write the numerals, &c.
106. Open and close positions, with numerals.



107. Figure the bass of the following chords.



108.



CHAPTER VIII.

MODULATION.

Before going on to learn new chords, we will say a word about **modulation**, that we may make use of it in our exercises, to give them variety.

Modulation. We have remarked previously, (see Part I., Chap. 3,) that a melody, (and of course the harmony that accompanies it,) is sometimes written partly in one key and partly in another, leaving the original key for a while, and afterwards returning to it; and it is evident that a piece must be incomplete, unless it terminates in the key in which it began.

This passing from one key to another is termed *modulation*. So soon as a tone is used foreign to the original key, a modulation takes place; so soon as that tone is restored by an accidental, the piece returns to the original key.

Passing Modulation Modulations may be more or less protracted. Sometimes only one foreign chord occurs, and the piece returns immediately. This is termed a *passing* modulation. Sometimes it remains a while in the new key, and has a cadence in that key, thus closing one half, or a smaller section of the piece.

Modulation into the Dominant. The simplest modulations are into the *kindred* keys; and of these, *the most common is the modulation into the dominant.* So soon as the 4th degree is raised a semitone, the piece has modulated; so soon as it is lowered again, the piece returns to its former key. For example:

FIG. 88.

Note The letters in the largest type denote a change of key.

A modulation into the dominant key is sometimes called a *half-cadence*, though not through the chord of the sixth and fourth.

When the 7th degree is lowered a semitone, a modulation into the sub-dominant takes place.

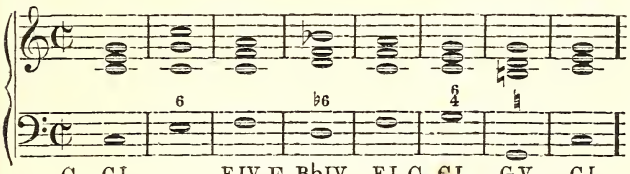
Into the Sub-Dominant.

The chord of the sixth and fourth is so rarely used, excepting in cadences, that whenever it occurs we anticipate a cadence at once; and if it be founded upon any other than the tonic chord, it presupposes a modulation; or, (to use a familiar phrase,) we feel it coming, even before the foreign tone or harmony is introduced. As in the preceding figure: the 4th chord, being founded not upon the tonic C of the original key, but upon the dominant G, it gives the idea at once of a cadence in the key of G, though the foreign tone, F sharp, has not yet occurred.

Chord of the Sixth and Fourth as a means of Modulation.

The following is an instance of a modulation into the sub-dominant; a mere passing one, however, there being no cadence.

FIG. 89.

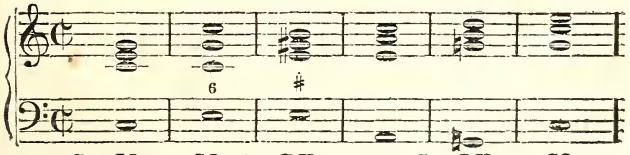


The modulation into the parallel minor key (and *vice versa*) is also quite frequent. And this shows an additional proof of the necessity of raising the 7th degree of the minor scale, for otherwise the modulation would not be perceptible.

Modulation into the parallel Minor.

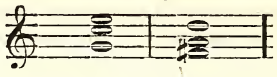
Passing modulation into the parallel minor key.

FIG. 90.



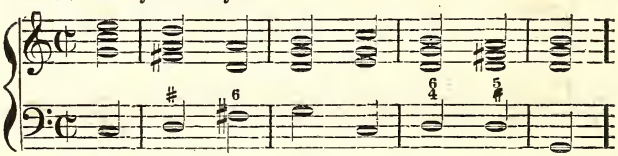
As one chord can belong to several different keys, it is not altogether certain at first what key is aimed at in a modulation, until one or two chords have followed that which introduces the foreign tone, or till a chord of the sixth and fourth has occurred. The chord of D major, for instance, is the tonic chord of the key of D major, the dominant chord of both G major and G minor, and the sub-dominant of A major. The progression

FIG. 91.

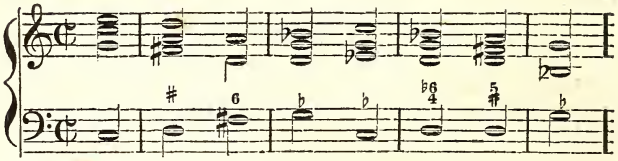


might therefore anticipate either of the above keys. Thus:

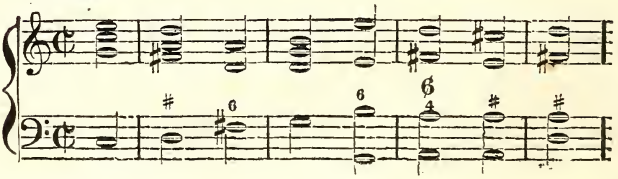
Mod. from C major to G major.



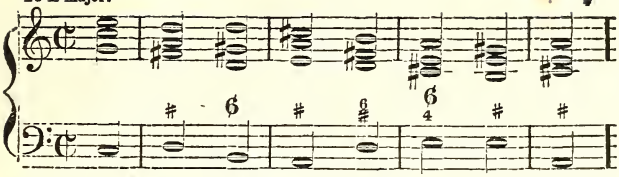
To G minor:



To D major.



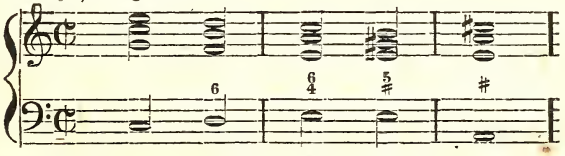
To A major.



* The last modulation, however, is rather too abrupt. Modulations should always be gradual, and through the kindred keys. A better method would have been through A minor, which is closely allied to C major. Thus:

FIG. 92.

To A major, through A minor.



But the readiest and most useful means of modulation is through what is called the *chord of the seventh*, which we shall proceed to treat in the next chapter.

QUESTIONS.

What is a modulation?

What determines it?

What is meant by a *passing* modulation?

What are the simplest modulations?

Which is the most common of all?

What degree of the scale must be altered, to modulate into the sub-dominant?

Which, into the dominant?

Which, into the parallel minor?

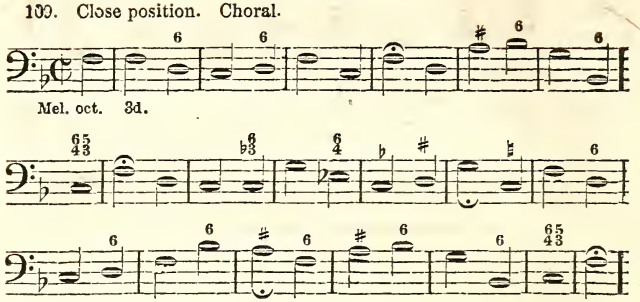
What chord is of eminent use in modulating?

Why is it often doubtful into what key the piece is going to modulate?

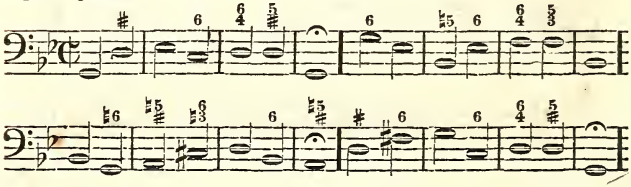
How should you modulate from the dominant to the sub-dominant?

EXERCISES.

109. Close position. Choral.



110. Choral.



111. Modulate from C to G through A minor, finishing with a cadence.
112. " " C to A minor, " "
113. " " E minor to A minor, " "
114. " " G to C, " "

CHAPTER IX.

CHORD OF THE DOMINANT SEVENTH.

Formation of the Chord of the Seventh.

The *chord of the seventh* is formed from the triad, by adding to it the *seventh* of the root.

Chords of the seventh may be formed upon every triad of the scale.

The principal *chord of the seventh* is that of the *dominant seventh.* Richter Fig 82 Dominant the principal Seventh-chord.

This is of especial use in forming cadences.

A chord of the seventh differs from the simple triad in not being an independent chord. Dissonance.

It contains a dissonance, (the seventh,) which must therefore be *resolved.*

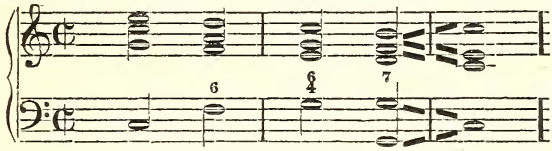
This resolution takes place according to a fixed rule, namely: Its resolution,

RULE. The seventh must *descend* to the next degree below.

The dominant seventh is almost invariably followed by the tonic chord. and Progression.

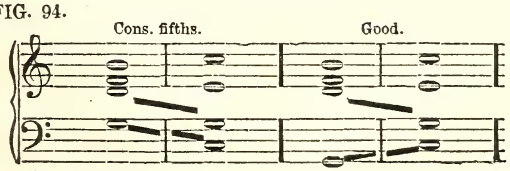
Let us now make a cadence with this chord, and examine the progression of its intervals. As it contains four tones, none need be doubled.

FIG. 93.



The seventh (F, in the alto voice) must descend to E; the leading-tone (in the soprano) ascends to C; the root must ascend a fourth or descend a fifth; and the tenor must take either the octave in the following chord, or the fifth. In the former case, the tonic chord must dispense with the fifth, as in the above figure; the latter progression can only take place when the root ascends a fourth, otherwise consecutive fifths would result. For instance:

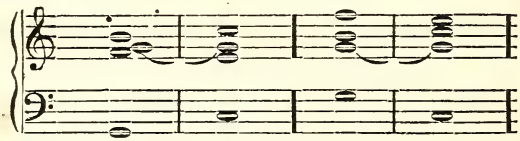
FIG. 94.



This, then, is the natural progression of the intervals of the dominant seventh, when followed by the tonic chord. It may, however, be varied.

First: the fifth in the dominant chord may be omitted, and the root doubled; and if we wish the tonic chord to be complete, it can be made so by this means. Thus

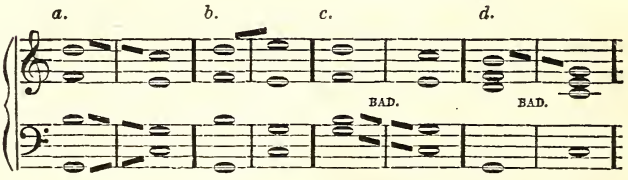
FIG. 95.



In this way, too, it will be seen, the additional advantage is gained of connecting the two chords.

Again: we may make both chords complete in another way. The leading-tone is sometimes allowed to descend to the fifth of the resolution-chord. This is, however, an exception to the general rule, and is permitted only in certain cases — *never* when in the soprano voice, and *only* when the root *ascends*.

FIG. 96.



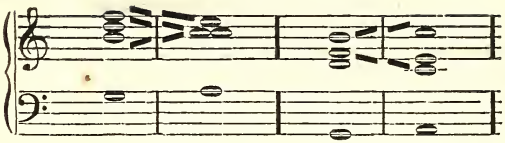
In this case, the fifth may descend to the octave, or ascend to the third, as in *a* and *b*. But if the root descends a fifth, we have concealed fifths, as in *c*. The example *d* is *never* allowable.

These then are the usual methods of resolving a seventh-chord, and its effect must be evident in rendering a cadence much more complete and decisive.

False Cadence

Instead of the tonic chord, that of the 6th degree may sometimes follow the dominant seventh.

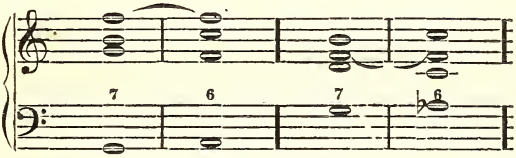
FIG. 97.



Here, it will be seen, the seventh descends, and the leading-tone ascends, as before. This progression is sometimes called the *false cadence.*

Another method of resolving the seventh-chord is where the seventh remains fixed, instead of descending, and the other voices alone move; in which case the resolving chord must of course be one that shall contain the seventh as some other interval. Thus: Varied Resolution.

FIG. 98.



Here it will be observed, the leading-tone still follows its natural progression.

The figuring of the seventh-chord, as seen above, is simply the figure 7.

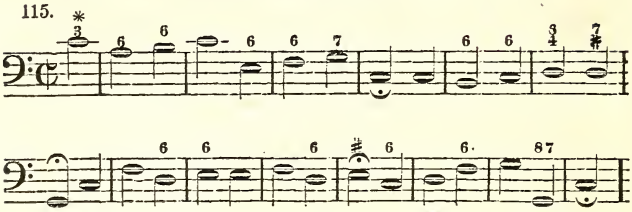
QUESTIONS.

How is the chord of the seventh formed?
What triads may have a seventh added?
Which is the principal seventh-chord?
Of what especial use is it?
How do seventh-chords differ from simple triads?
Which interval contains the dissonance in this chord?
What is the rule for its resolution?
What is the usual progression of the dominant seventh chord?
What progression is sometimes allowed to the leading-tone?
Under what conditions?

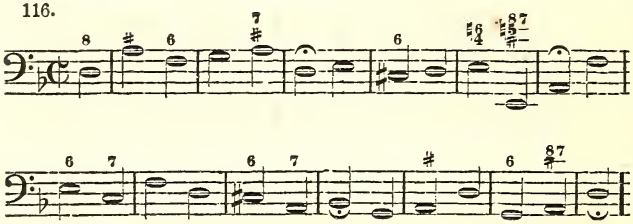
How else may we make the resolving chord complete?
What effect has this chord in an authentic cadence?
What is meant by the false cadence?
In what case may the seventh *not* descend?
What is the figuring of this chord?

EXERCISES.

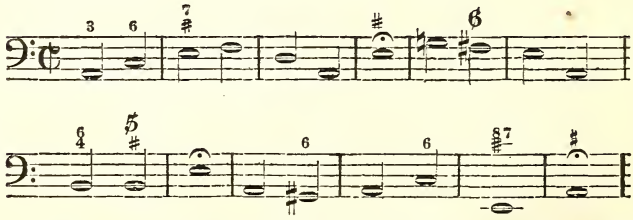
115.



116.

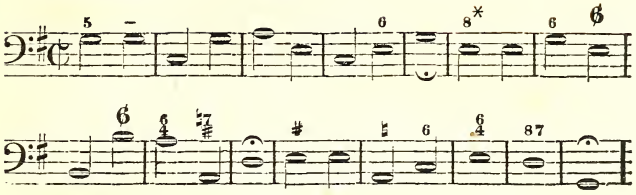


117. In score.



* Observe that in all future exercises we place over the first bass note the figure indicating the interval with which the *melody* is to commence.

118. In score.



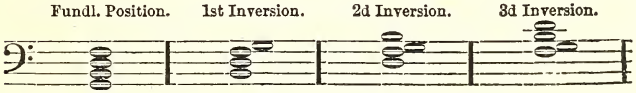
CHAPTER X.

INVERSION OF THE DOMINANT SEVENTH.

Inversions of the Seventh-Chord.

The chord of the seventh may be inverted, like the triad. It has *three* inversions, according as the bass voice takes the third, fifth or seventh, which are called the 1st, 2d and 3d inversions respectively.

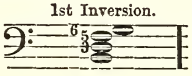
FIG. 99.



First, how figured.

Let us see now how these inversions are figured and named.

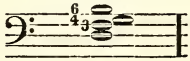
FIG. 100.



Numbering the intervals from the bass note, we obtain the figures $\frac{6}{5}_{3}$, generally abbreviated $\frac{6}{5}$. The first inversion of the seventh is called therefore the *Chord of the Sixth and Fifth.*

FIG. 101.

2d Inversion.

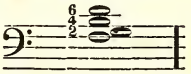


Second, The second inversion gives the figures $\frac{6}{4}_{3}$, abbreviated $\frac{4}{3}$, and is called the *Chord of the Fourth and Third.*

NOTE. Observe that in the 2d inversion of the dominant seventh in the minor scale, the third in the chord is raised a semitone, and the figure $\overset{6}{5}$ must be expressed. So with all usually omitted figures.

FIG. 102.

3d Inversion.

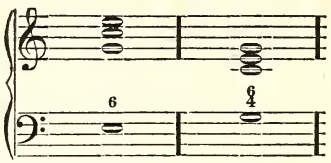


and Third This gives the figures $\frac{6}{4}_{2}$ $\frac{4}{2}$ 2, and is called the *Chord of the Second.*

NOTE. The student must fix the figuring of these inversions firmly in his mind.

Bass note not to be doubled. In the inversions of the triad we showed that the bass note might be doubled, thus:

FIG. 103.

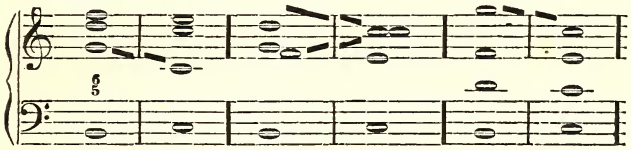


but in those of the seventh-chord this can never be. The bass tone must be omitted in the other parts.

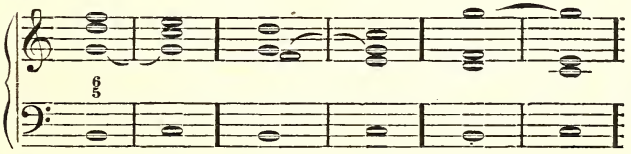
Progression of the Seventh-chord when inverted. The rules for progressions in inversions of the seventh are in general the same as when in the fundamental position, founded upon the *cadence-progression.* That is, the 7th and 5th descend, and the third ascends

It must be remarked, however, that the voice which takes the root of the seventh-chord inverted, retains it in the resolving-chord, instead of ascending a fourth or descending a fifth, as in the preceding chapter. For this latter progression belongs exclusively to the bass voice, and must never be used in any of the others. The following examples are therefore incorrect:

FIG. 104.

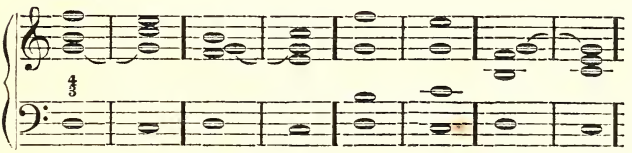


105. Correct.



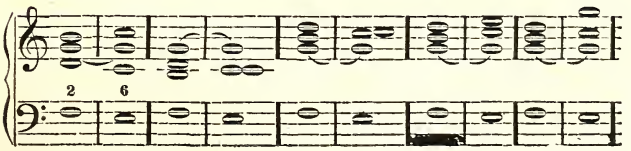
The progression of the 2d inversion would be as follows:

FIG. 106.



And of the 3d:

FIG. 107.



Resolution of the Chord of the Second.

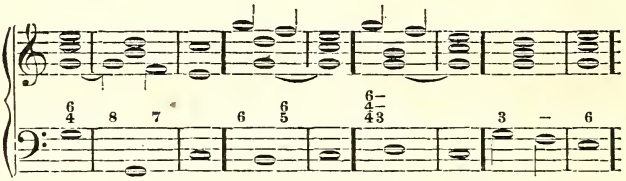
Observe that in the 3d inversion the bass takes the seventh, which must descend; it will therefore receive the third of the tonic chord; so that

The natural resolution of the chord of the second is the *chord of the sixth.*

Octave and Seventh in the same voice.

As the seventh forms a dissonance with the root, there is a common method of letting the voice which takes that interval sing first the octave and then the seventh, performing two notes, while the other parts perform but one. This renders the effect of the dissonance much smoother. The voice must, however, lie in a different octave from that which contains the root in both chords. The bass note is figured 8 7, or, in an inversion, with the corresponding figures. Thus:

FIG. 108.



How figured.

Note. In the 1st inversion, the second 6 is generally omitted. In the 2d, this variation rarely occurs, on account of the untimely effect of the chord of the sixth and fourth. In the 3d inversion, the figure 3 merely indicates that the simple triad only is wanted, and the line after it, that it is to be retained in the other parts, while the bass moves.

QUESTIONS.

How many inversions has the chord of the seventh?
How is the first inversion figured?
How the second?
The third?
What is the first inversion of the seventh called?
What the second?
The third?
What is the progression of the third in the inverted seventh-chord?
What is that of the fifth?

Of the seventh?

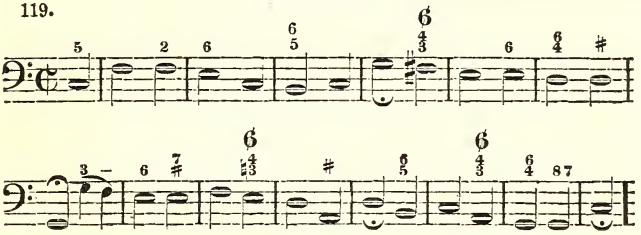
What chord forms the natural resolution of the chord of the second?

How may the effect of the dissonance in the seventh-chord be made smoother?

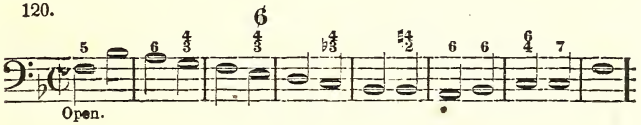
How is the bass figured in this case?

EXERCISES.

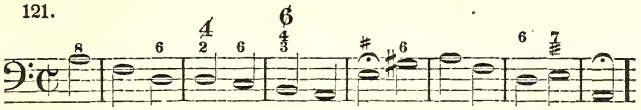
119.



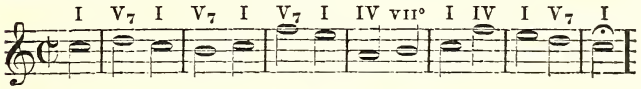
120.



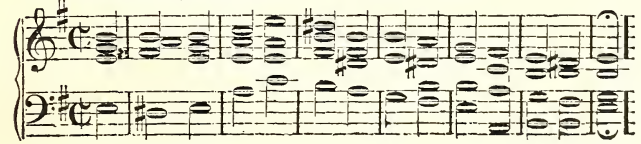
121.



122. Write harmony to this melody according to the numerals, using inversions.



123. Write the figured bass of the following chords.

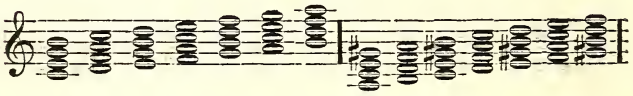


CHAPTER XI.

OTHER CHORDS OF THE SEVENTH.

As we have said, chords of the seventh can be formed upon any triad. If we form them upon all the different triads of the major and minor scales,

FIG. 109.



Variety of Seventh-chords.

we shall obtain a great variety of seventh-chords, differing greatly from each other. Some have minor thirds and minor sevenths, (as the 2d degree, major, and 4th degree, minor scale;) some major thirds and minor sevenths, some minor thirds and major sevenths, &c., &c., as may be seen on examination of the above figure.

Some of these will be found less practicable than others, on account of the harsh progressions that result from them. The general rules, however, that we have already given for the dominant seventh, remain the same for these.

Progressions reviewed.

Let us take this opportunity to review them:

The root moves to the fourth above, or fifth below;
The third to the next degree above, or to the third below;
The fifth to the next above or below, sometimes to the fifth below;
The seventh to the next degree below.

The rules are, however, subject to the exceptions we have already mentioned, and to others which we will now examine.

Seventh-chords of the 7th degree.

Two very important seventh-chords are those built upon the 7th degree of the scale, major and minor. They differ from others in having diminished fifths, and their progressions differ, because the root, being the leading-tone, must move to the *next*, instead of to the fourth degree above. Thus:

FIG 110.

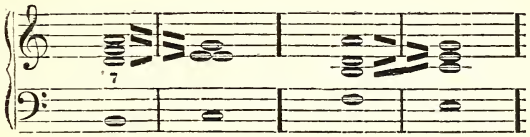
The latter has also a *diminished seventh*, and the chord is always distinguished by that name. Chord of the Diminished Seventh.

It will be seen by the above figure, that the addition of the seventh to the diminished triad does not alter its close relation to the tonic chord, but that with or without the seventh its progression remains the same.

Care must be taken to avoid consecutive fifths, as the figure will show. The tonic chord necessarily has the third doubled.

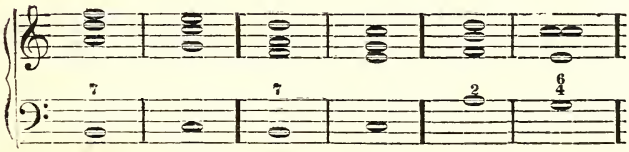
The seventh-chord of the 7th degree major has this peculiarity also, that the seventh must always be in the soprano voice. The following are the usual forms in which it appears:

FIG. 111.



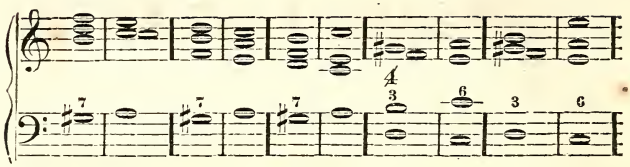
but never in these forms:

FIG. 112.



The chord of the *diminished seventh*, however, may be used in any position or inversion. Thus:

FIG. 113.



PREPARATION OF THE SEVENTH.

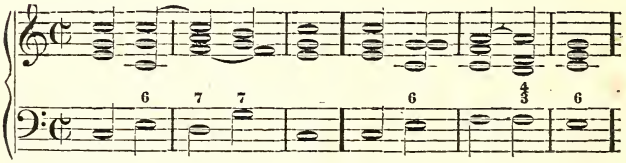
Preparation of the Seventh;

We have thus far spoken only of the chord which shall follow the seventh-chord, or its resolution; but not of that which should precede it.

As the seventh is a dissonance, the effect is smoother if it be *prepared*, as it is called; that is, let the preceding chord be one that shall contain it as some other interval. (*In general*, a tone is said to be prepared, when it lies in the preceding chord *in the same part*. We have already had instances of it in Chap. II., where the *connection* of chords was discussed.)

The following are instances of the preparation of the seventh:

FIG. 114.



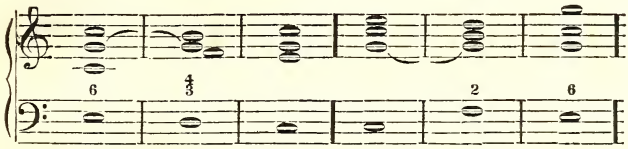
We therefore lay it down as a

RULE. The seventh must be prepared.

of the Dominant Seventh.

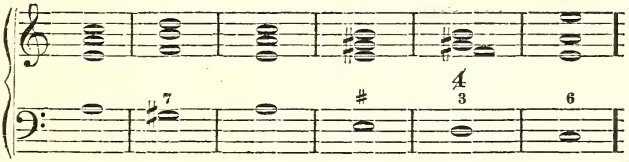
There are two exceptions. One is the chord of the *dominant seventh*, which is prepared not by the seventh, but by the fundamental tone.

FIG. 115.



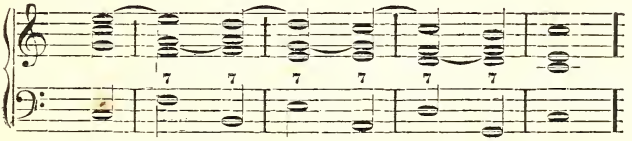
The other exception is the chord of the *diminished seventh*, which needs no preparation whatever. Diminished Seventh need not be prepared.

FIG. 116.



Several seventh-chords may follow one another. In fact, we often find a sequence of sevenths, where the voices follow respectively a regular progression. In this case, in alternate chords, the fifth must be omitted, as in the following example· Sequence of Sevenths.

FIG. 117.



Such is the general progression of all seventh-chords, with their inversions. Some, as we have said, on account of their harshness, are never used, and others have a totally unmeaning effect. (As an instance of this, let the student play the seventh-chord of the 2d degree of the major scale in the 2d inversion, and his ear will convince him of its flat and insipid character.) Some will require great care in their management, on account of the increased danger of concealed and open fifths and octaves, as some of these chords have major sevenths, forming perfect Unmeaningness, and consequent inutility of many seventh-chords.

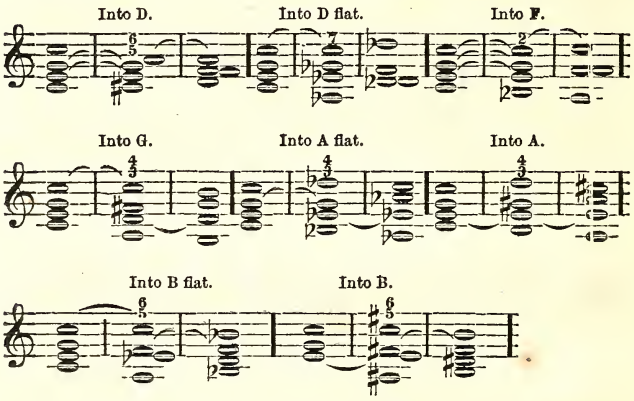
fifths with the thirds in the chord. The most useful and frequent of the chords of the seventh and their inversions can be learned only by practice and observation. They are generally those with *minor* sevenths.

MODULATION BY MEANS OF THE SEVENTH-CHORD.

Modulation with the Dominant Seventh.

We mentioned at the close of Chap. VIII., that the seventh-chord was a useful means of modulation. The dominant seventh is particularly so. As an instance of this, we will merely show, in the following table, into how many keys we can modulate from the key of C, through the dominant seventh-chord of the new key; the *seventh* in these cases, exceptionally to the rule, need not always be prepared; though some one tone in the seventh-chord must connect with the preceding.

FIG. 118.



As the dominant chord is major in both major and minor keys, the above modulations answer as well for one as the other.

Thus it will be seen, we can modulate directly into *eight* different keys by means of the dominant seventh-chord.

Modulations into the remaining keys can easily be effected by the insertion of one simple triad; as for instance, into E flat or E:

FIG. 109

QUESTIONS.

State all the varieties of intervals found in different seventh-chords of the major and minor scales.

State again the usual progressions of the four voices in seventh-chords.

How do the seventh-chords of the 7th degree differ from others?

What is the chord of the diminished seventh?

What is its progression?

Which interval has to be doubled in the chord which follows it?

What peculiarity exists with regard to the seventh-chord of the 7th degree major?

What is meant by the preparation of an interval?

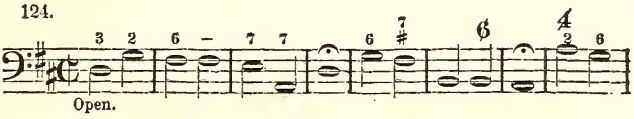
Why must the seventh always be prepared?

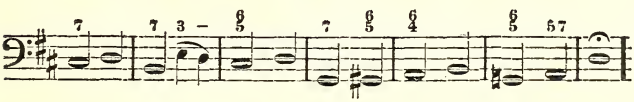
What are the exceptions to this rule?

Into how many keys can we modulate directly by means of the dominant seventh-chord?

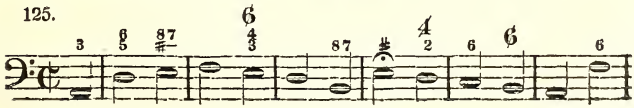
EXERCISES.

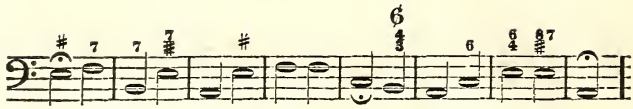
124.



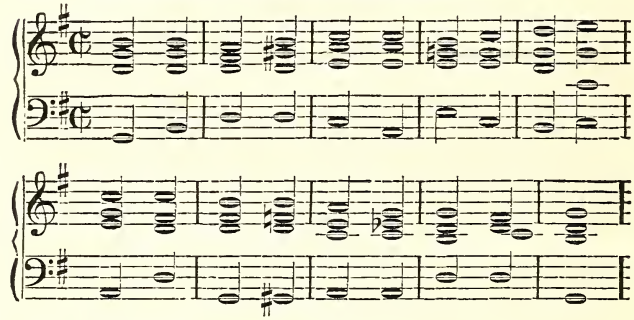


125.

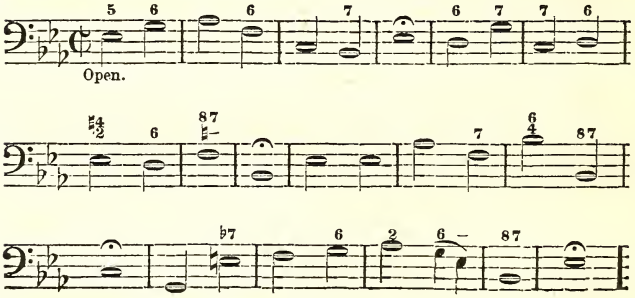




126. Write the bass in the key of F, and figure it.



127. Write this choral in score.



CHAPTER XII.

CHROMATIC ALTERATION OF CHORDS.

We have now gone through all the chords to be met with in practice.

Note. Many theorists go still farther, and maintain the existence of chords of the *ninth*, *eleventh*, and *thirteenth*. But wherever these intervals occur, we think they can be explained on principles which will be explained hereafter, (see chapters on suspensions, organ-note, &c., &c.) For simplicity's sake, therefore, and because simplest theories are the best, we prefer to treat them as variations of the seventh-chord, rather than render the system more intricate by the creation of new chords, and thereby confuse the mind of the student.

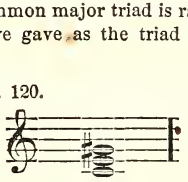
Varieties can be produced from the chords we have already learned, by the chromatic alteration of some of their intervals. These chords are, nevertheless, to be considered as still the same in respect to their fundamental tone and construction upon the same. Altered Chords.

There are, however, but *four* principal chords of this sort to be met with in practice.

1st. The *Augmented Triad;* Augmented Triad.

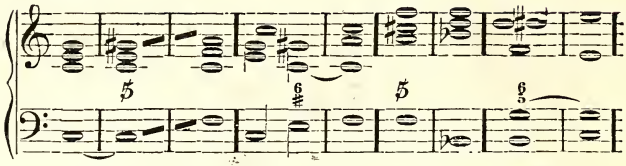
where the fifth in the common major triad is raised a semitone. It corresponds to that which we gave as the triad of the 3d degree in the minor scale.

FIG. 120.



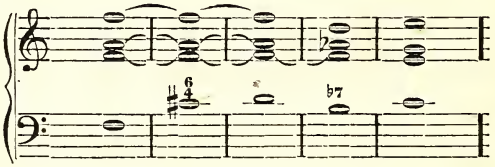
Whenever it occurs, it is usually considered as formed upon the 1st, 4th, or 5th degrees of the *major* scale, than as the proper triad of the 3d degree *minor*. Its progression is uniform; the fifth ascends a semitone, and the root to the fourth above, (often through an inversion,) or descends to the fifth below. The seventh may be taken with it or not, at pleasure. Its progression.

FIG. 121.



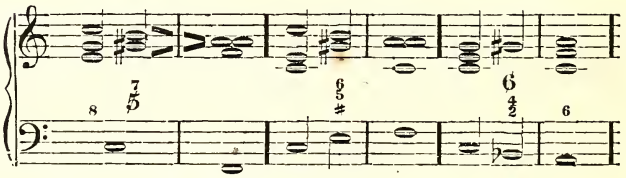
It may be used in the 2d inversion with a particularly good effect, the raising of the fifth destroying the usual *cadence*-impression. Thus:

FIG. 122.



It is often found in connection with the progression 8 7, described in Chap. X.; the perfect fifth appears with the octave, and the augmented fifth with the seventh. Two voices will then move, and two remain stationary. The third of the following chord necessarily becomes doubled.

FIG. 123.

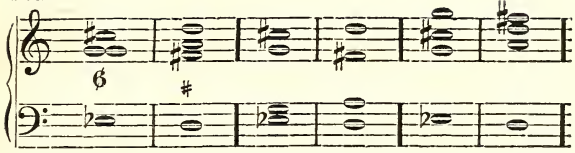


Chord of the Augmented Sixth

2d. Chord of the *Augmented Sixth.*

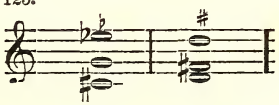
This is formed from the *minor triad in the* 1*st inversion*, by augmenting the root of the chord. In this case the fifth only can be doubled, because the augmented octave or root, becoming a sort of leading-tone, can have but one progression, and cannot therefore itself be doubled.

FIG. 124.



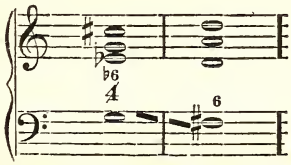
The chord will sometimes, though rarely, be met with in the fundamental position; although there can only be three parts, in that case. For instance:

FIG. 125.



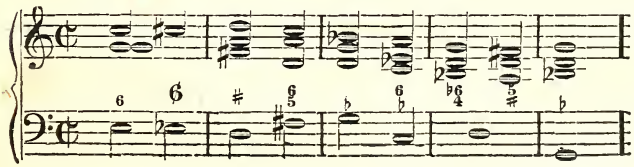
Sometimes also in the 2d inversion, where the fifth has very much the character of a seventh, and the chord and progression those of a chord of the second. Thus:

FIG. 126.



The chord of the augmented sixth forms a useful method of modulating into a minor key, of which the second chord in the progression is the dominant chord. Thus:

FIG. 127.

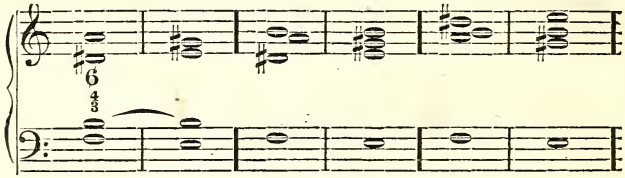


Of the Augmented Sixth, Fourth and Third.

3d. Chord of the *Augmented Sixth, Fourth and Third.*

This bears a close resemblance to the preceding. It is a seventh-chord, having a major third and diminished fifth; and as its name implies, is used only in the 2d inversion. It is generally formed on the 2d degree of the minor scale by raising the third, and followed by the chord of the dominant. Thus:

FIG. 128.



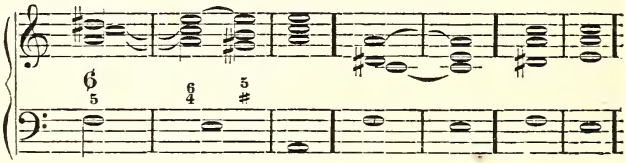
Its progression must evidently be always the same.

Of the Augmented Sixth and Fifth.

4th. Chord of the *Augmented Sixth and Fifth.*

This is the seventh-chord on the 4th degree of the minor scale, in the 1st inversion, the root of the chord being raised a semitone. Its progression is to the 2d inversion of the tonic, and therefore serves to prepare a cadence. Thus:

FIG. 129.



The principal use of these *altered chords*, as they are called, is in modulating.

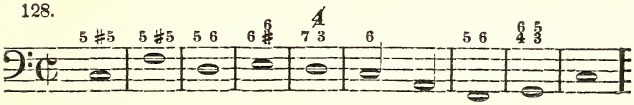
QUESTIONS.

What is the meaning of an *altered chord?*
How many principal ones are there?

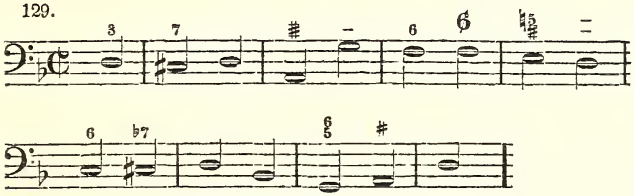
What are they?
How is the augmented triad formed?
On what degrees of the scale is it constructed?
What is the progression of its intervals?
In what combination is it frequently used?
How is the chord of the augmented sixth formed?
Which interval is doubled?
What modulation can be made with it?
How is the chord of the augmented sixth, fourth and third formed?
On which degree of the scale is it usually found?
What chord follows it?
How is the chord of the augmented sixth and fifth formed?
On which degree of the scale?
What is its invariable progression?
What is the general use of altered chords?

EXERCISES.

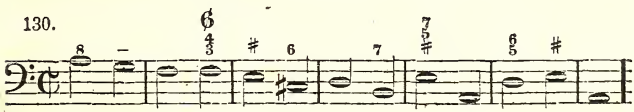
128.



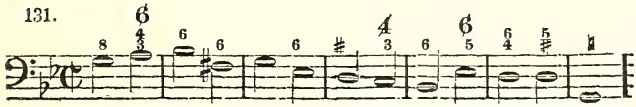
129.



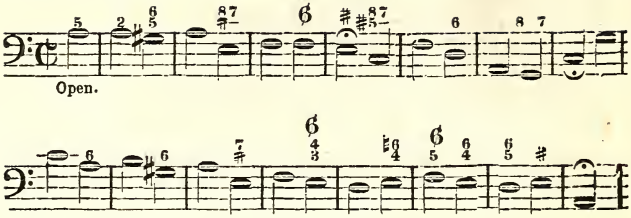
130.



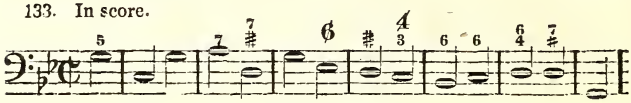
131.



132. In score.



133. In score.



CHAPTER XIII.

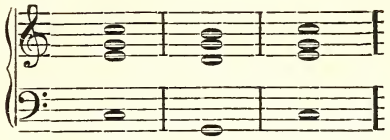
SUSPENSION.

Another method of connecting chords together, and one which serves greatly to relieve the monotony of a succession of simultaneous progressions, is by means of what is called *Suspension*.

Suspension. A suspension takes place, when a tone in a chord, whose progression is to be to the next degree below, is retained, after the other intervals of that chord have moved to their places in the next.

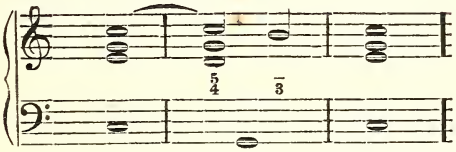
For instance, in this succession of chords

FIG. 130.



the following suspension may take place:

FIG. 131.



Here the *C* of the soprano, in the first chord, is retained after the other voices have moved to the next; and the *B* is said to be *suspended.*

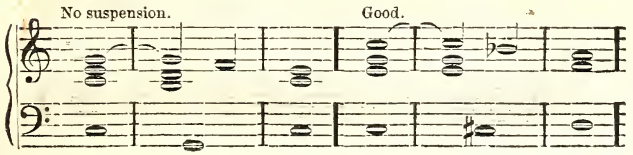
Dissonance necessary to a Suspension.

An essential feature of a suspension is, that the *retained* tone shall form a dissonance with some other interval, (as *C* and *D* in the second bar of Fig. 131.) This gives it some analogy to the seventh, and like the seventh, it must be *prepared,* as well as followed by a *resolution.*

The retained tone must be foreign to the resolution-chord.

Therefore when a seventh is suspended by a *perfect* octave, (see Chap. X., at the end,) it is in reality *no* suspension; but when by a *diminished* octave, it is good. For instance:

FIG. 132.



Suspension of either Interval.

Either interval in the triad may be suspended. But when it is the third or the fifth it must not be doubled in any other part, excepting the bass; otherwise the effect of the suspension is, evidently, completely destroyed.

Suspended tone not to be doubled.

If however it be the fundamental tone, that *may* be doubled, provided it be in a different octave from that in which the suspension takes place.

FIG. 133.

Incorrect.

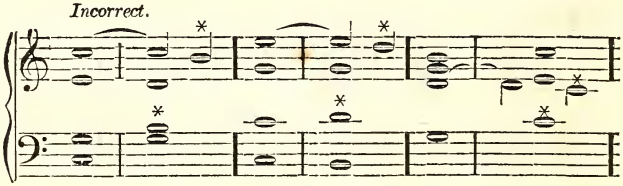
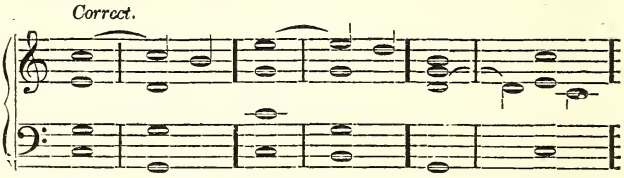


FIG. 134.

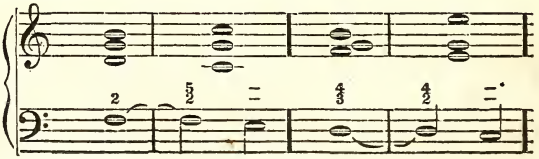
Correct.



Suspension in the Bass

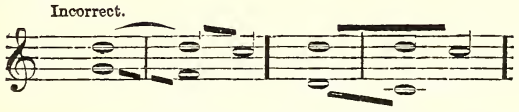
When the suspension lies in the bass voice, the suspended note must by no means be doubled. These generally occur before the chord of the sixth.

FIG. 135.



Suspensions by no means remove or cover consecutive fifths and octaves.

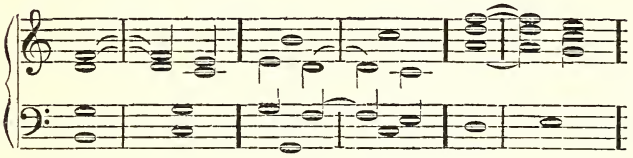
FIG. 136.



Suspensions may be double, or in two parts at once; or even triple.

Double and Triple Suspensions.

FIG. 137.

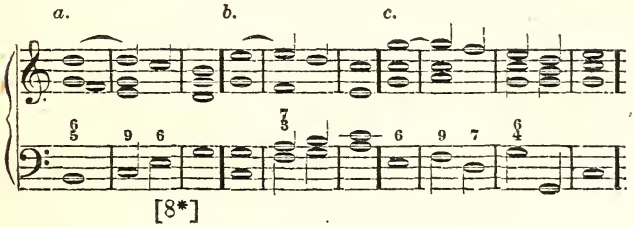


It will be found in practice that the furnishing a new connecting-tone between chords by means of suspension, gives greater freedom to the other voices, and the strictness of the rules we have laid down for progressions in the former part of this work, becomes somewhat relaxed. For this reason, the harmony may change sometimes during the suspension from the originally intended chord to some other; *provided*, however, the suspended tone belong to the new harmony, or, in other words, that the *resolution* be the same.

Change of Harmony during a Suspension.

The following are instances of this:

FIG. 138.

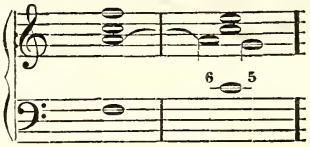


Example *b.* shows the close analogy between a suspension and the seventh-chord.

Suspension without a Dissonance

Sometimes a retained note gives a chord the character of a suspension, though no dissonance is produced. For instance:

FIG. 139.



Here the retained note forms with the other intervals a chord of the sixth, which contains no dissonance. Yet, from its unusual appearance in this progression, the effect of a suspension is certainly the prominent one.

Suspension from below

A suspension may sometimes be *from below*, that is, when the progression of the retained note is to the next degree *above;* though these are much less common than the other kind.

It generally takes place when the progression is to be but a half-tone, especially in *altered* chords, (see last Chapter,) and in the leading-note.

FIG. 140.

Here also, the suspended note must be doubled in no part but the bass.

Suspensions, like other chords, are figured by reckoning the intervals from the bass note, as in Figs. 131 and 135.

QUESTIONS.

What is suspension?

What must the progression of a retained note in general be?

What is the essential element of a suspension?

What analogy can be traced between a suspension and a chord of the seventh?

In which part may a suspended third or fifth be doubled?

How is it when the root is suspended?

What effect has suspension upon consecutive fifths or octaves?

How may the effect of a suspension be produced, without being one in reality?

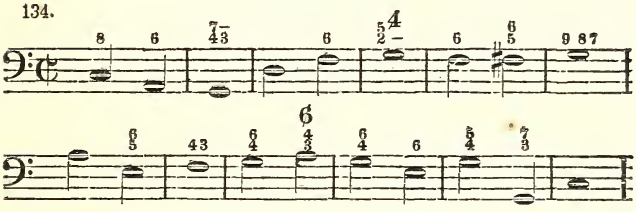
What other form of suspension exists?

In what progressions does it generally occur?

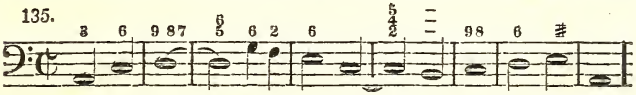
What is the rule for doubling in suspensions from below?

EXERCISES.

134.



135.



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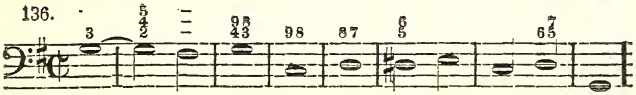
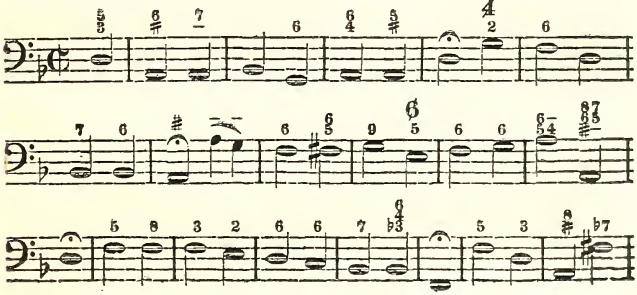
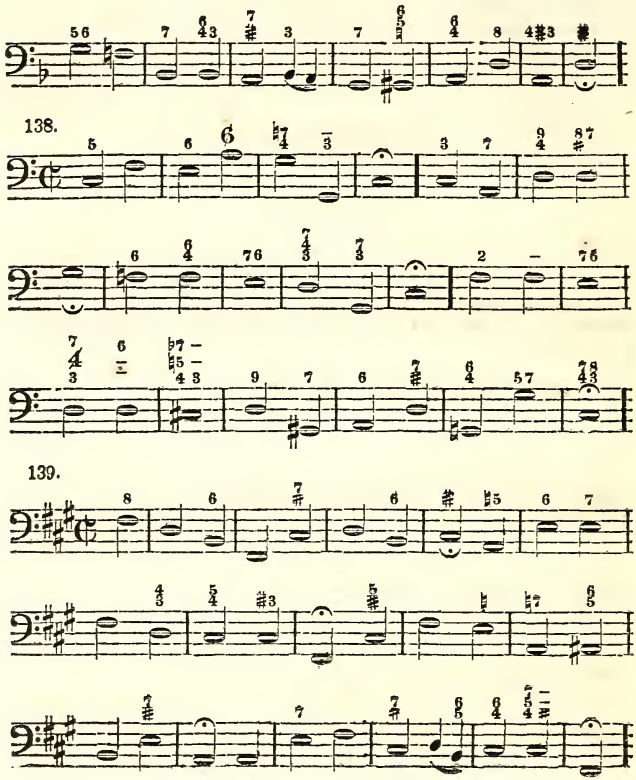


137. In score.




138.
139.

CHAPTER XIV.

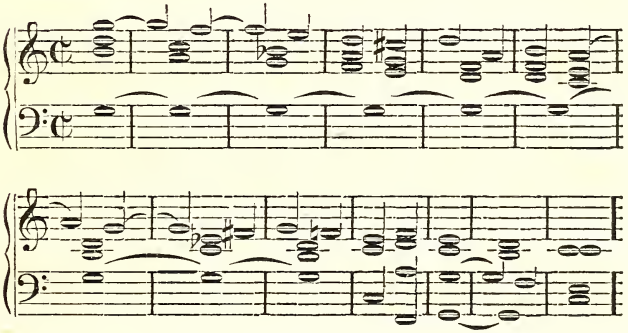
ORGAN-NOTE.

Another instance of tones being used that are foreign to the harmony, is where one voice retains a tone, while the other three go through a succession of chords, to some of which that tone does not belong. When this single tone lies in the bass voice, it is called an *Organ-note* or Pedal-note.

Organ or Pedal-note.

The following may serve as an example.

FIG. 141.



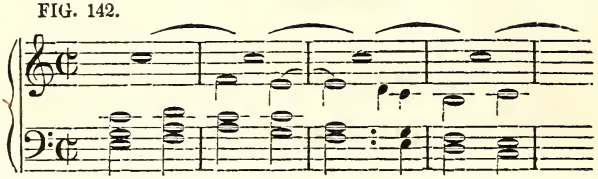
Observe that not only the first chord must be one that shall contain the organ-note, but others must be interspersed, and fall generally upon the accented part of the bar; and also the last must contain it.

Position of Chords containing the Organ-note.

This prolonged note may also lie in some other voice; as, for instance, the soprano:

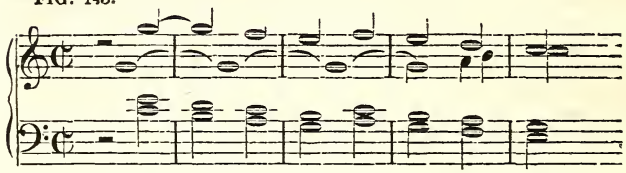
Prolonged note in other voices

FIG. 142.



Or in the Alto:

FIG. 143.

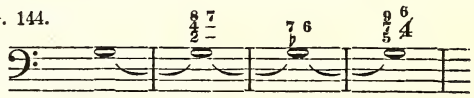


The bass however is most frequently used in this way.

Figuring of the Organ-note.

In the case of the organ-note, the harmony must be figured according to the intervals as before. The example in Fig. 141 would be figured thus:

FIG. 144.

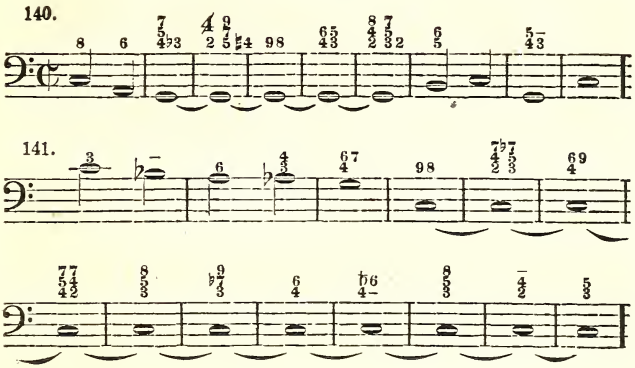


Care must be taken that the intervals of the moving chords lie in different octaves from the prolonged note, for if they interfere with it, its effect is greatly injured.

QUESTIONS.

What other instance occurs in music, of tones foreign to the harmony?
What is a prolonged note in the bass voice called?
Which chords in an organ-note passage must contain that note?
Which voice is most frequently used for this purpose?
How are chords figured in these cases?
What precaution is to be observed in organ-note passages?

EXERCISES.



CHAPTER XV.

PASSING NOTES AND APPOGGIATURAS.

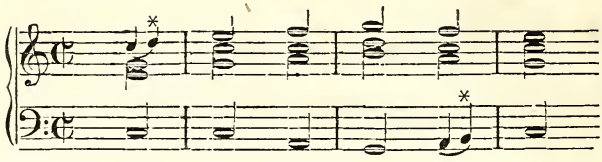
There are but one or two more cases which we have to mention, where the student will meet with tones that do not belong to the fundamental harmony of a passage.

These are either *Passing notes* or appoggiaturas.

Passing notes occur where a voice, in moving from its interval in one chord to its interval in the next, takes the intermediate tones or semitones on its way, the other voices holding their tones in the first chord in the mean while. Passing note.

The following is an instance·

FIG. 145.

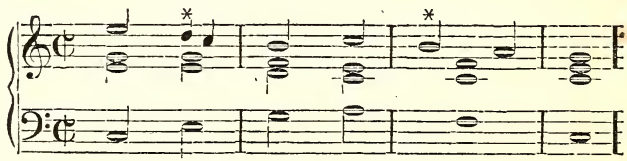


Here the soprano in passing from C to E takes the *D* on its way; so the bass the intermediate tone between A and C. The smooth and flowing effect which passing notes create, will be evident to all.

Appoggiatura. An *Appoggiatura* occurs, where the foreign note comes first, and afterwards the harmonic interval of the chord.

For example: *D* and *B* in the following chords.

FIG. 146.

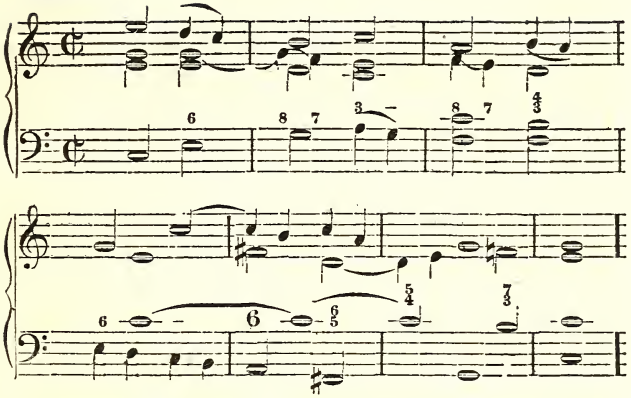


In appoggiaturas, as in the case of suspensions, the harmonic interval which follows the foreign tone, had better be omitted in the other voices.

Difference between them. Let it be observed that the difference between a passing note and an appoggiatura is, that one falls upon an *accented* note, the other upon an *unaccented* one.

The following is an instance of both passing notes and appoggiaturas intermingled in the various parts; so that a succession of simple chords in half-notes, is cut up, as it were, into a movement of quarter-notes.

FIG. 147.



Here it will be seen that the octave-and-seventh passage (Chap. X.) often has the effect of a passing note.

Seventh as a Passing note.

QUESTIONS.

What is meant by a passing note?
" " " an appoggiatura?
What is the difference between them?
What similarity exists between appoggiaturas and suspensions?

CHAPTER XVI.

GENERAL RULES FOR PROGRESSIONS IN WRITING HARMONY.

The student, if he has carefully studied the foregoing chapters, is now able to write four-part harmony in successions of chords, or as it is technically called, in simple *choral style;* and we think what has now

been discussed is amply sufficient to enable him to understand, analyze and explain all passages he may meet with in music of that class. As a sample, we have introduced at the end of the chapter a choral (taken from Mendelssohn's Oratorio of "St. Paul,") with the figuring, suspensions, passing notes, &c., &c., fully denoted. And we recommend to the student as an exercise, to analyze for himself others in the same way.

If the student examines works of a different character (as lighter music for the piano-forte, or secular pieces of any description,) with a view to analyzation, he may perhaps meet with many difficulties, owing to the greater freedom of harmonic progressions allowed in music of that sort. But a thorough examination into all these points would go far beyond the limits of the present work.

We therefore dismiss the subject, giving only, by way of conclusion, a few general rules to be observed in writing harmony in four parts.

GENERAL RULES.

1. Let the inner parts move as little as possible.

2. Avoid in *any* part all harsh and unmelodious progressions, such as augmented seconds, augmented fourths, major sevenths, and the like.

3. Never use two progressions of a fourth or a fifth in the same direction, particularly in the bass voice.

4. Let each voice perform a smooth and flowing melody.

5. Employ, as much as possible, intervals of thirds and sixths between two parts moving in parallel motion.

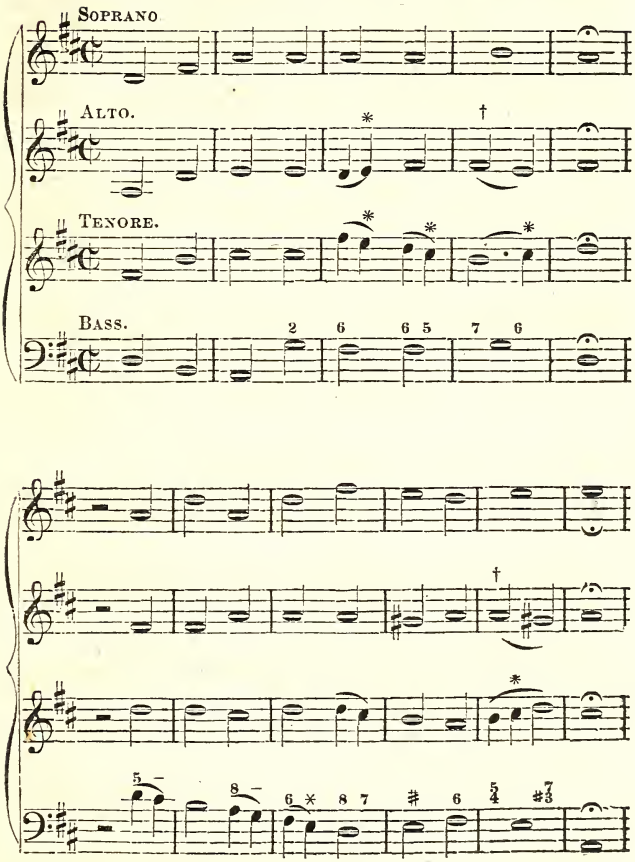
6. Combine the three effects of contrary, oblique, and parallel motion between the different voices.

7. Regard contrary motion as always preferable to parallel motion between soprano and bass.

8. Avoid a too frequent occurrence of the same chord.

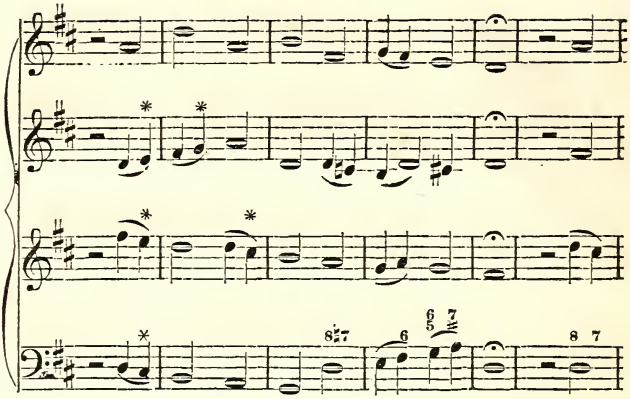
9. Avoid too many inversions, or fundamental positions in succession, but rather mix them promiscuously.

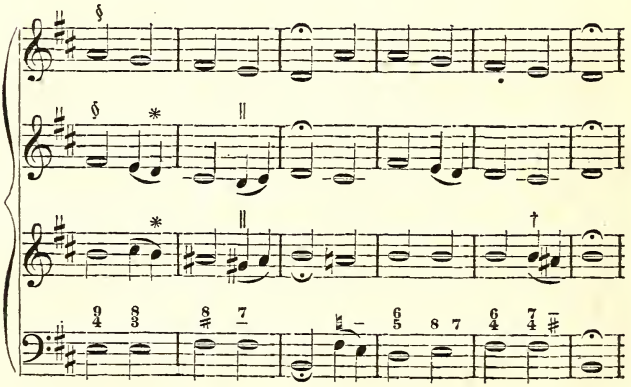
CHORAL FROM "ST. PAUL." MENDELSSOHN.



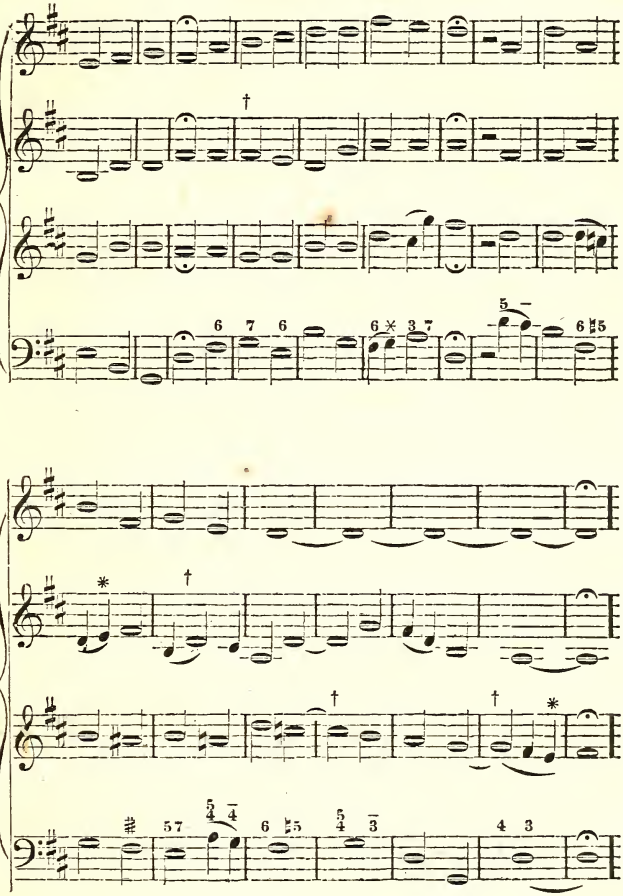
* Passing note.

† Suspension.





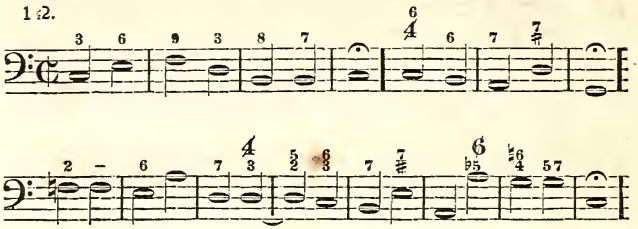
* Passing-note.
† Suspension.
§ Double suspension.
‖ Appoggiatura.



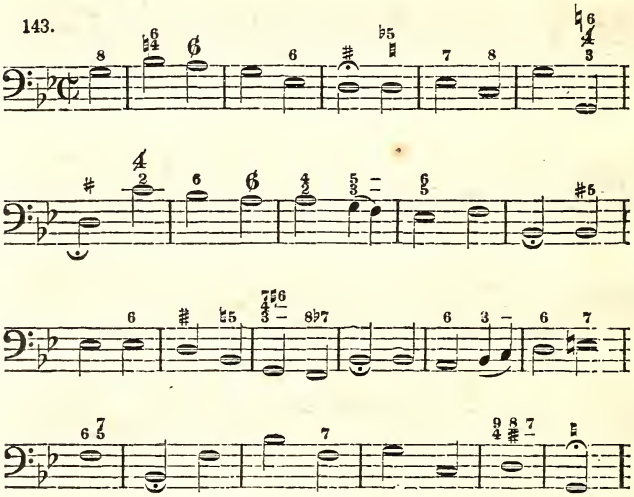
* Passing-note.
† Suspension.

EXERCISES ON ALL THE FOREGOING CHAPTERS

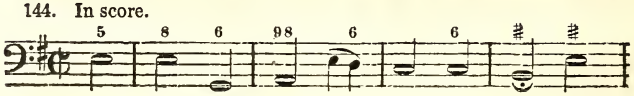
142.

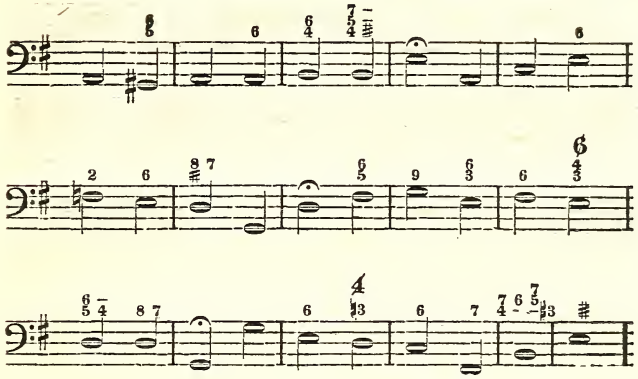


143.

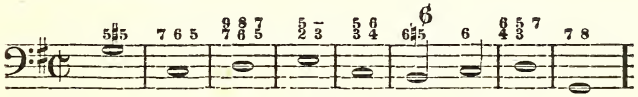


144. In score.

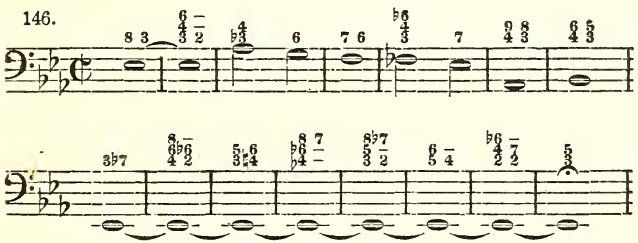




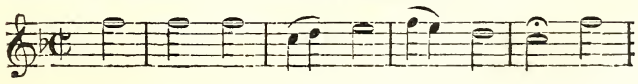
145. For the organ.

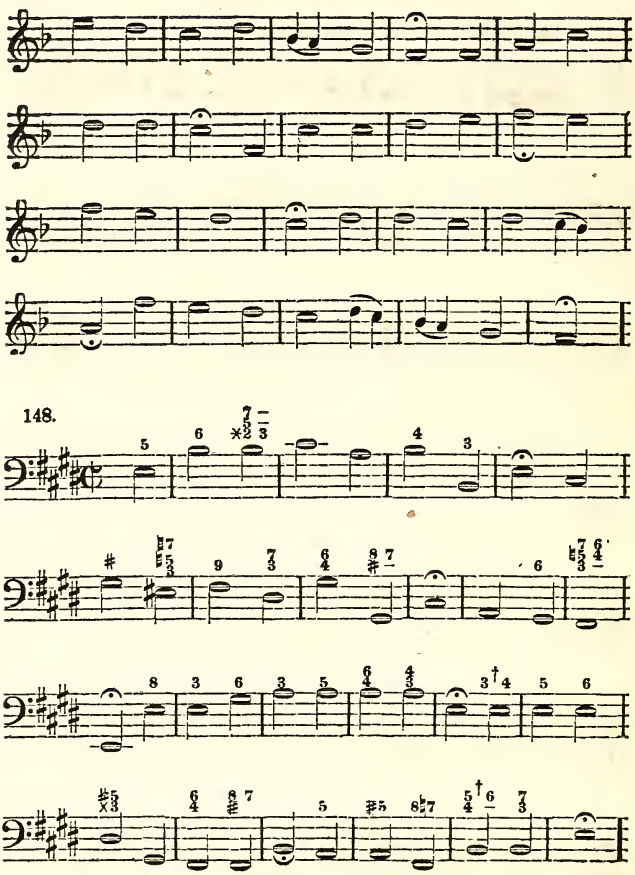


146.



147. Harmonize the following Choral, using passing-notes and suspensions. Modulate, and take especial care with the *cadences*.

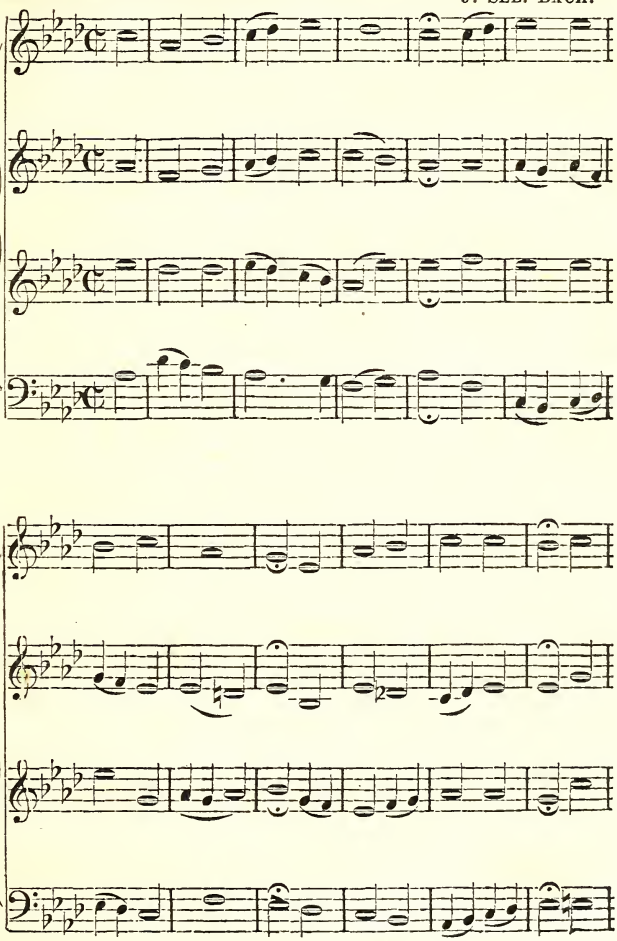


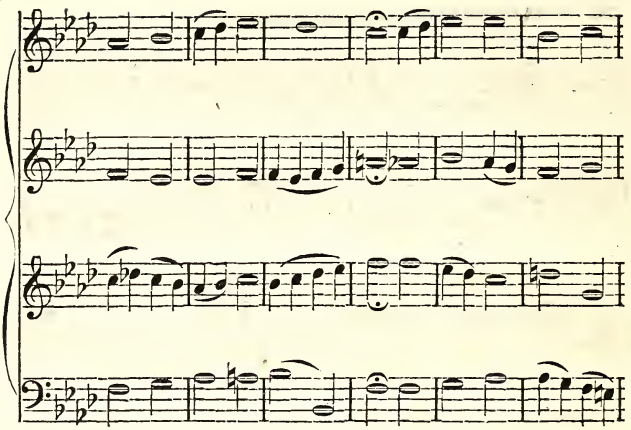


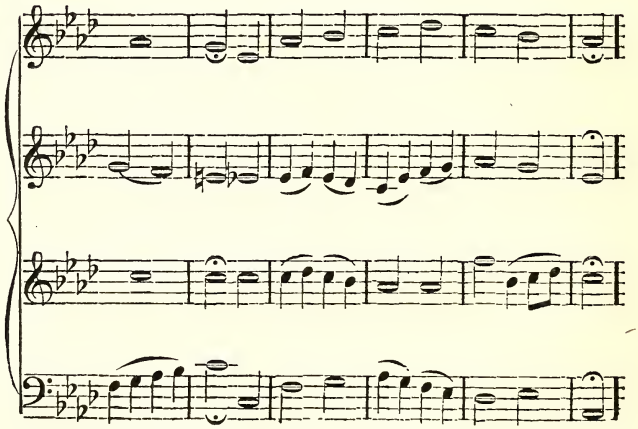
* Appoggiatura.
† Passing note

149. Write the figured bass of the following Choral.

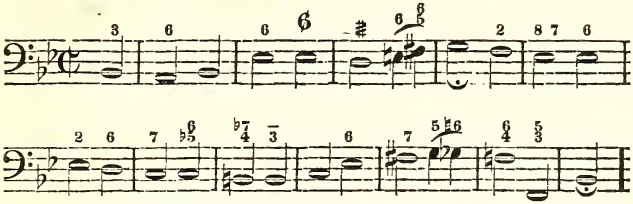
J. Seb. Bach.



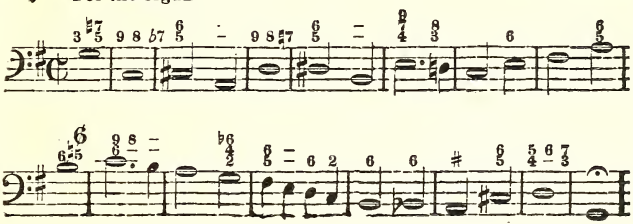




150. Harmonize the following bass. In score.



For the organ



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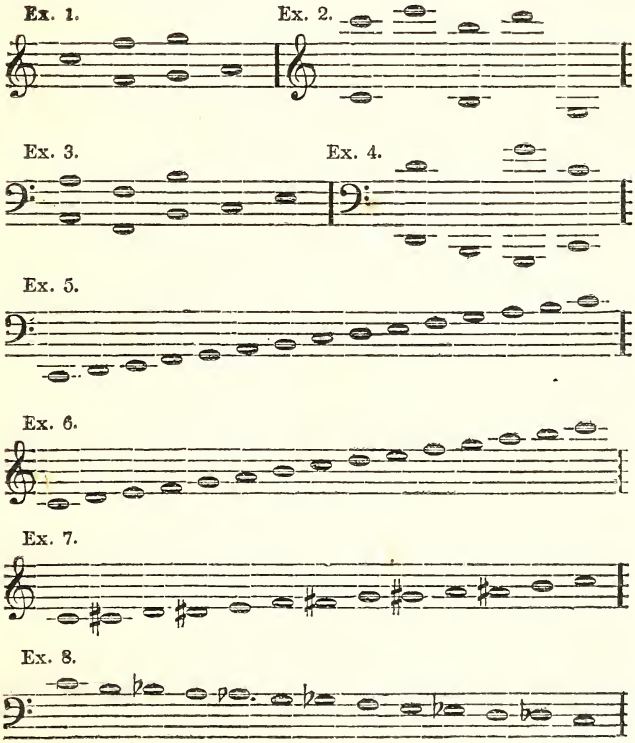
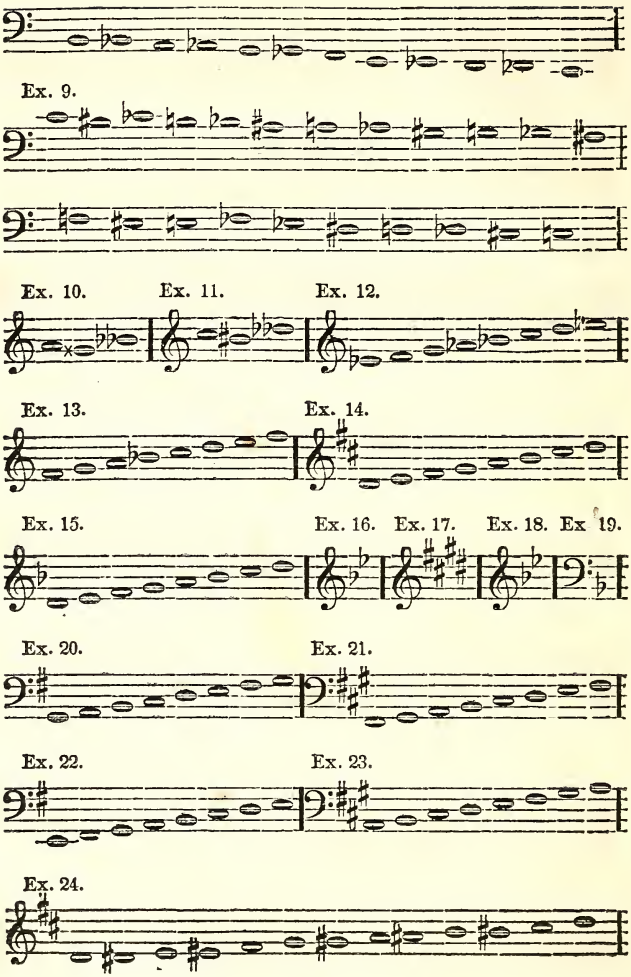
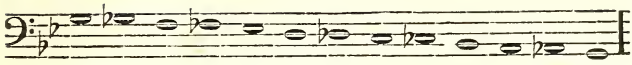



Ex. 9.
Ex. 10.
Ex. 11.
Ex. 12.
Ex. 13.
Ex. 14.
Ex. 15.
Ex. 16.
Ex. 17.
Ex. 18.
Ex 19.
Ex. 20.
Ex. 21.
Ex. 22.
Ex. 23.
Ex. 24.

Ex. 25.



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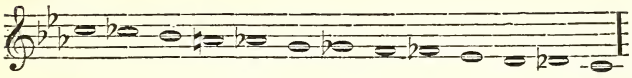
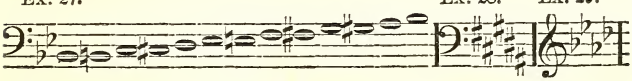
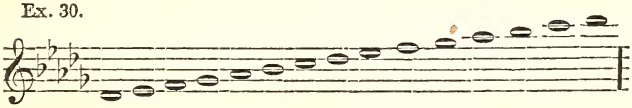


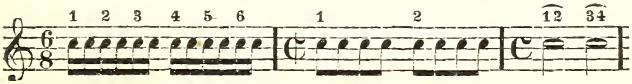
Ex. 27. Ex. 28. Ex. 29.



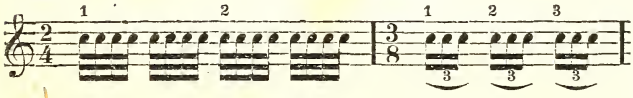
Ex. 30.



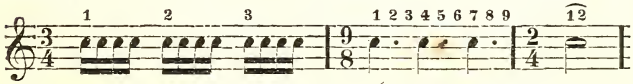
Ex. 31. Ex. 32. Ex. 33.



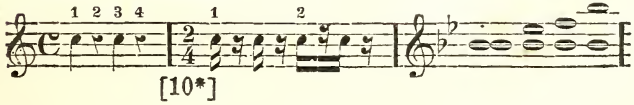
Ex. 34. Ex. 35.



Ex. 36. Ex. 37. Ex. 38.



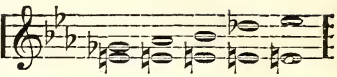
Ex. 39. Ex. 40. Ex. 41.



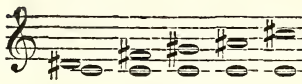
[10*]

Ex. 42.

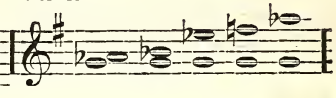
Ex. 43.



Ex. 44.

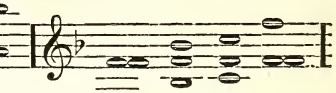


Ex. 45.



Ex. 46.

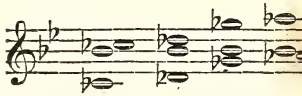
Ex. 47.



Ex. 48.

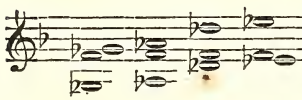
Ex. 49.

Ex. 50.



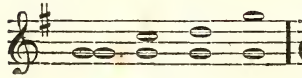
Ex. 51.

Ex. 52.



Ex. 53.

Ex. 54.



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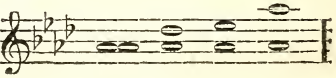

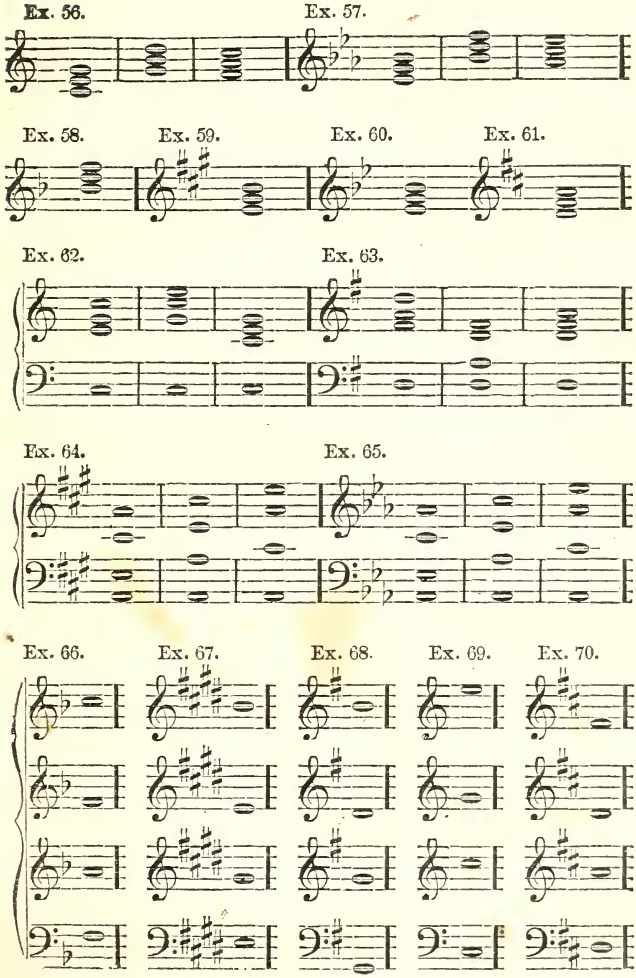
Ex. 56.
Ex. 57.
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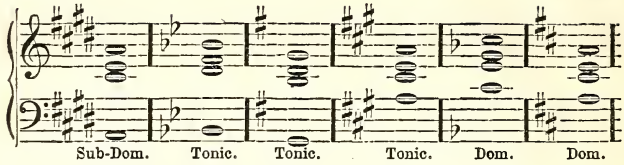
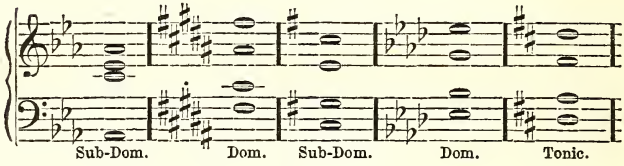
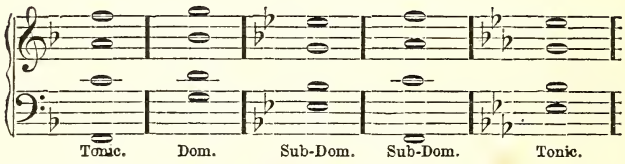
Ex. 70.

Ex. 71.







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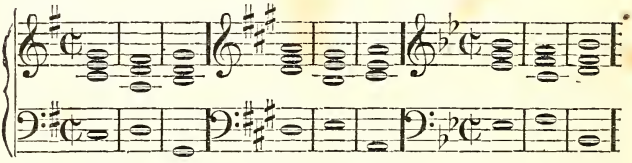

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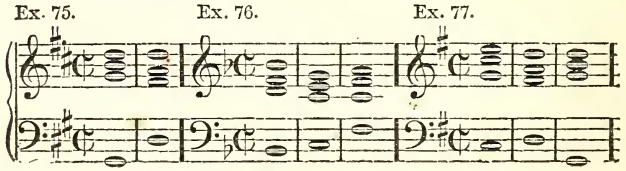

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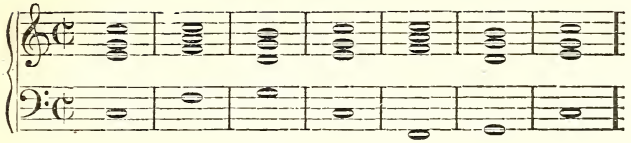

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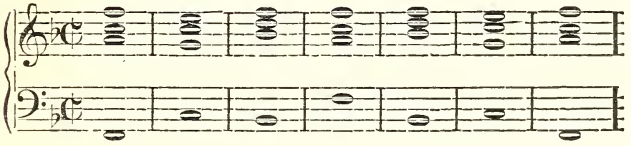

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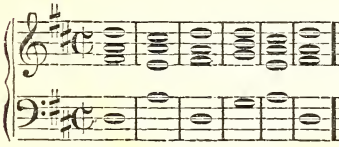

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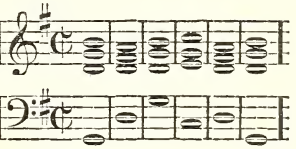

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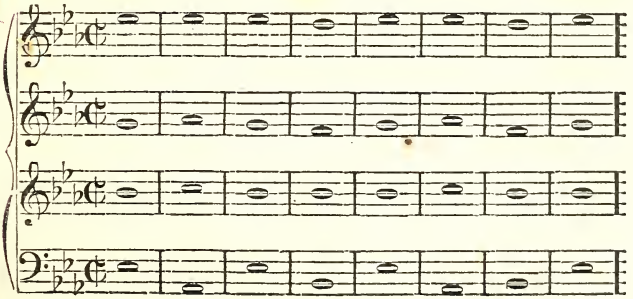

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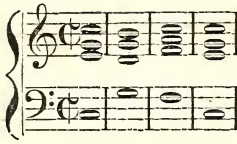

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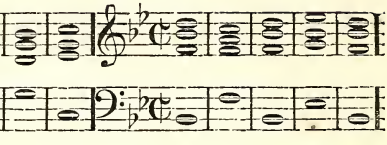

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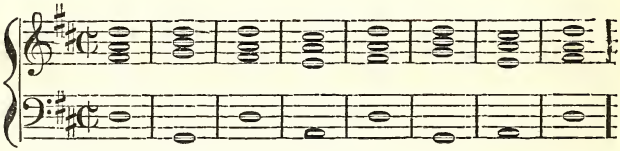

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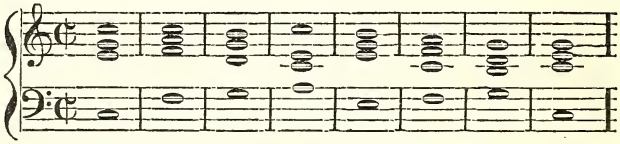

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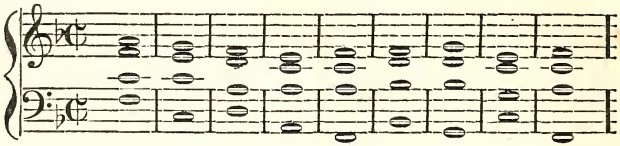

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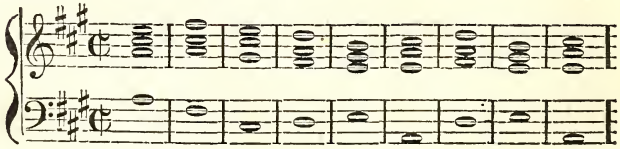

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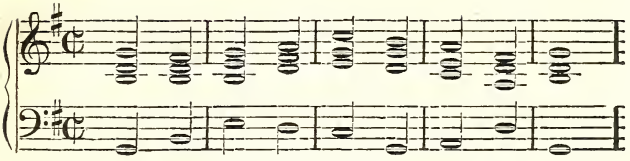

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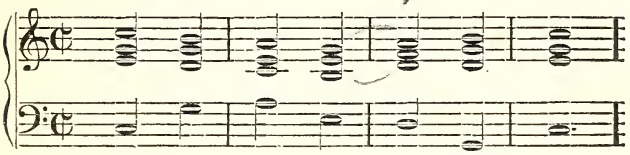

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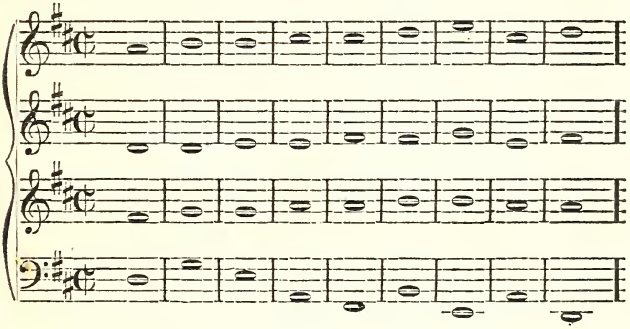

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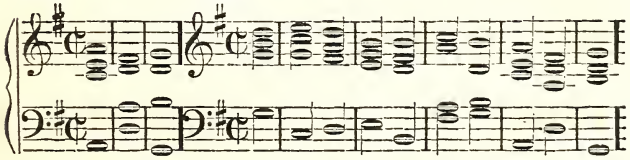

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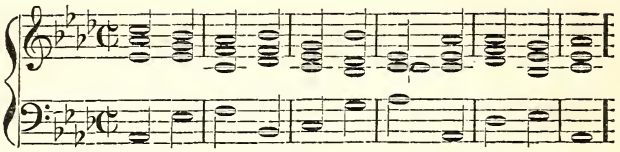

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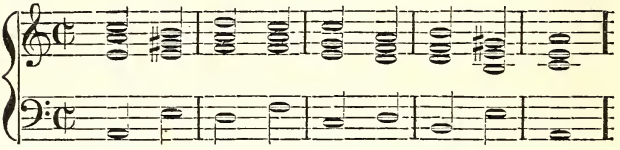

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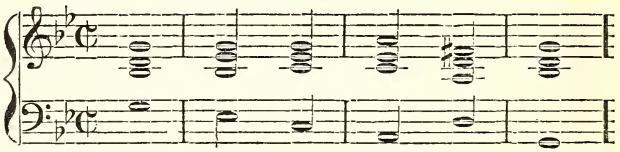

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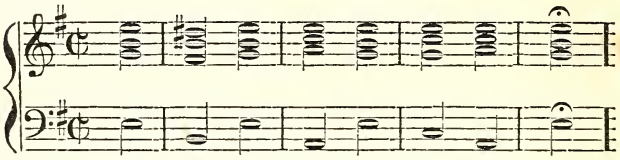

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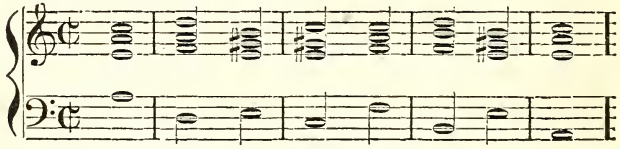

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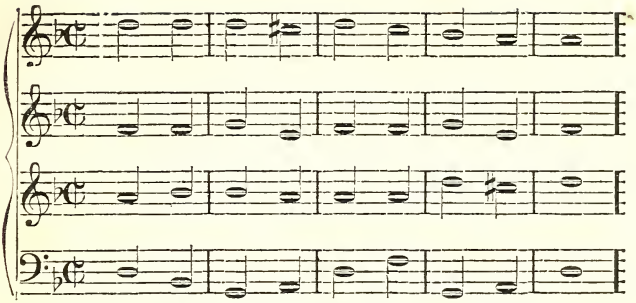

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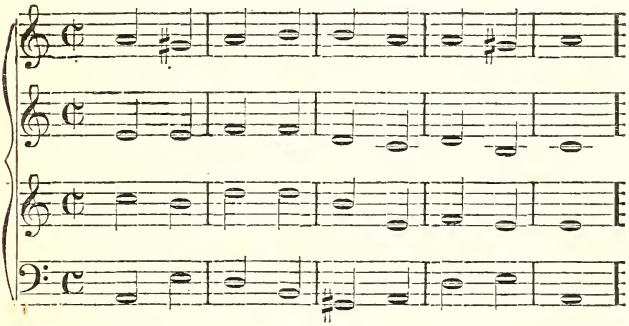

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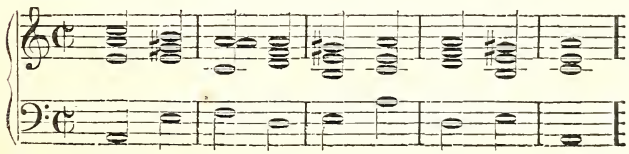

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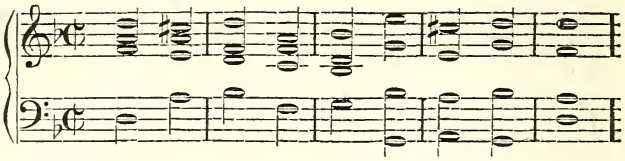

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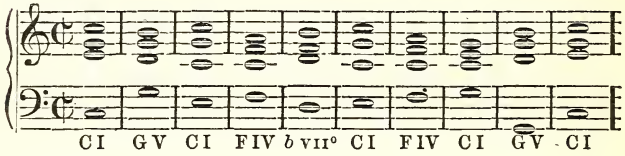

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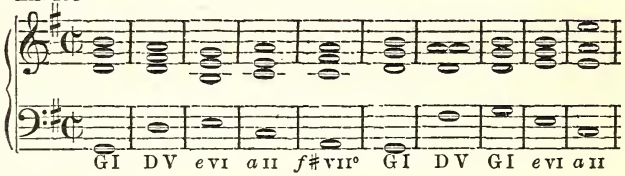

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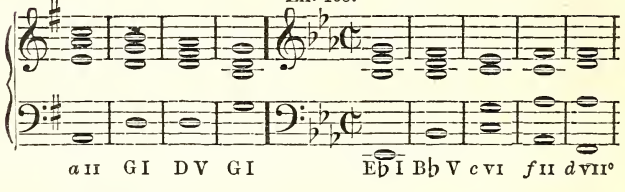

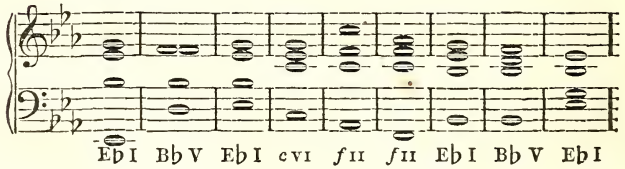

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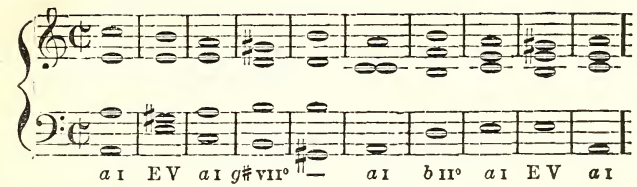

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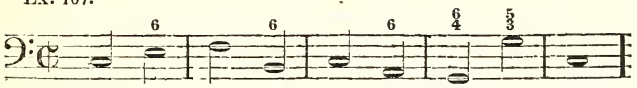

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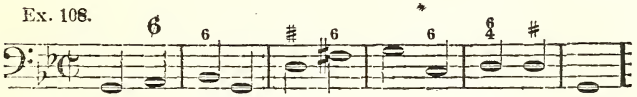

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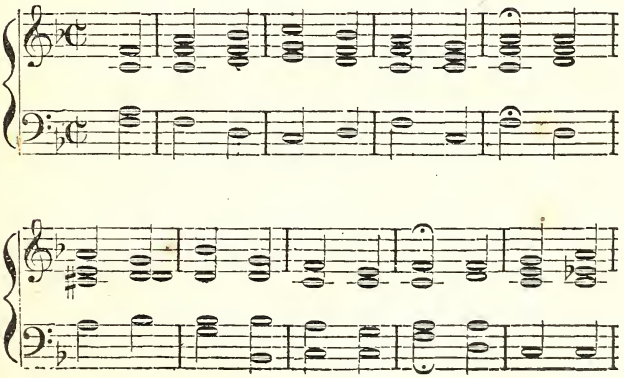

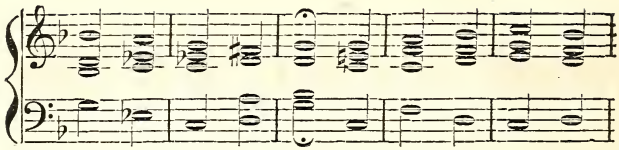

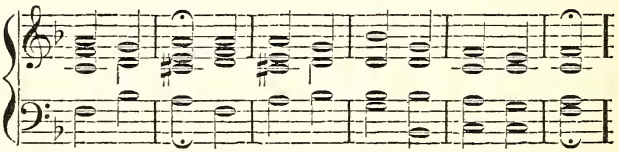

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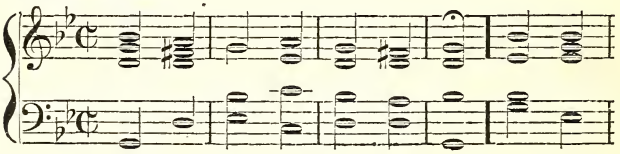

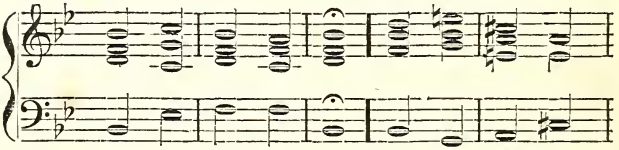

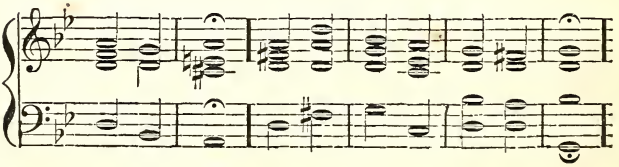

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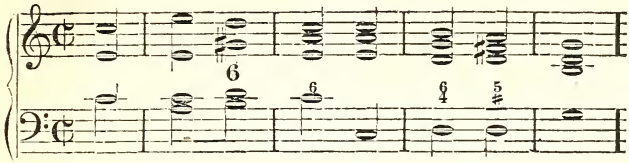

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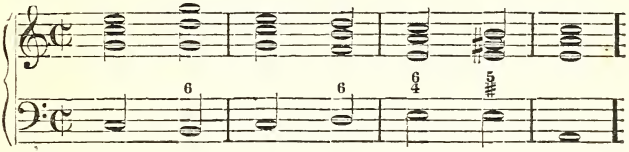

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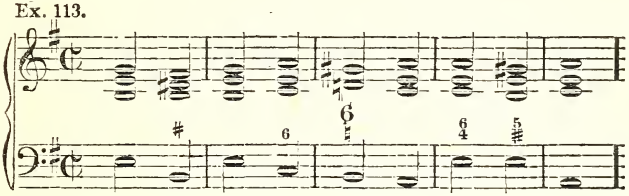

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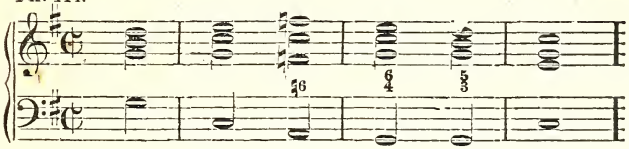

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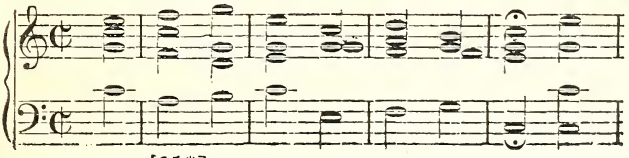

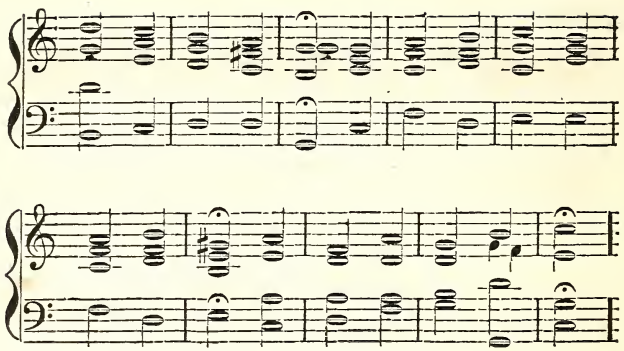

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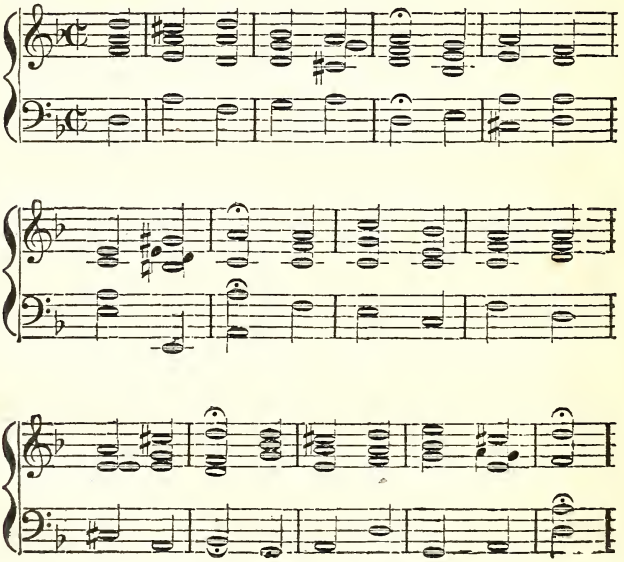

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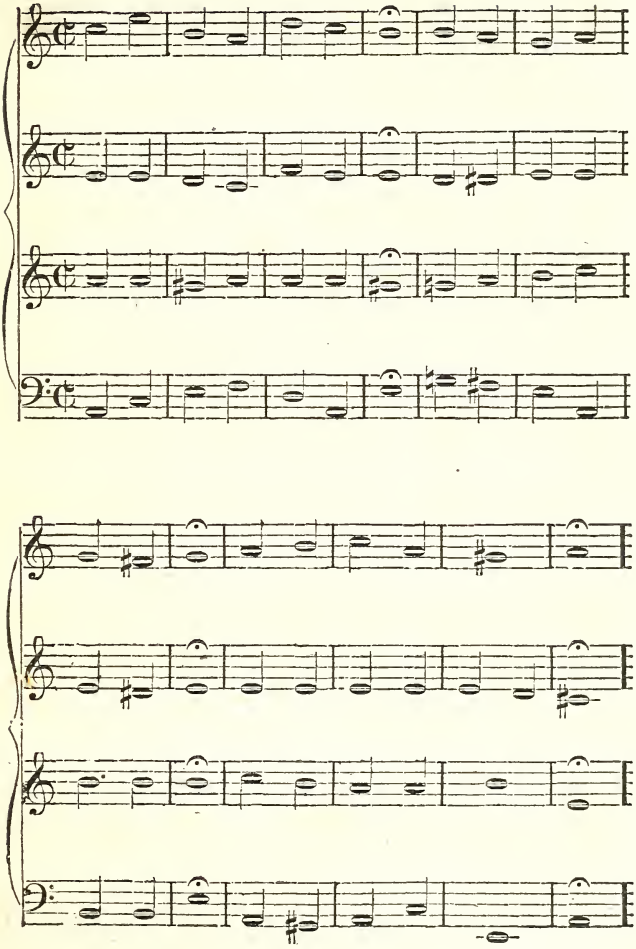

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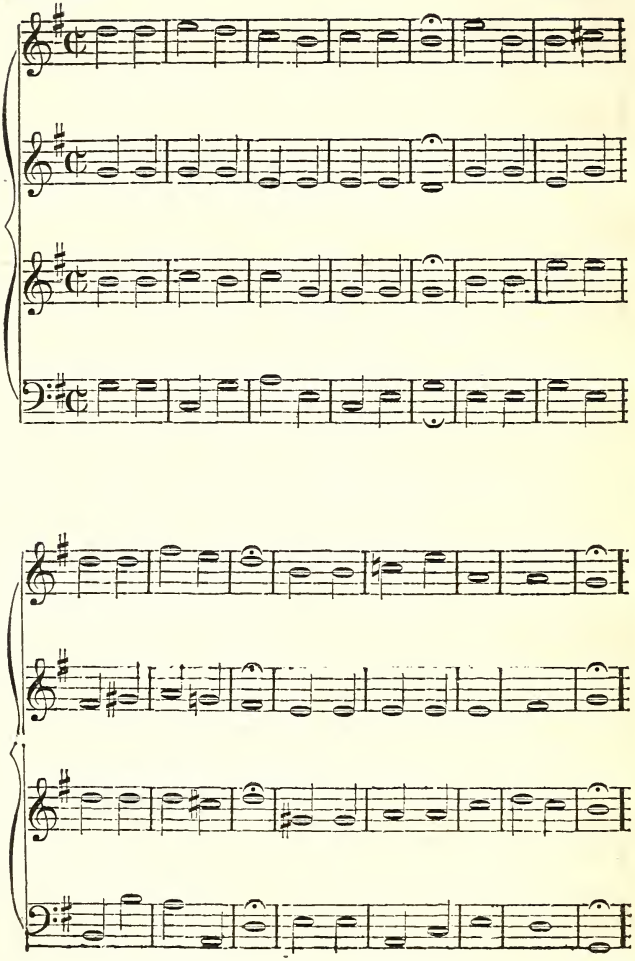

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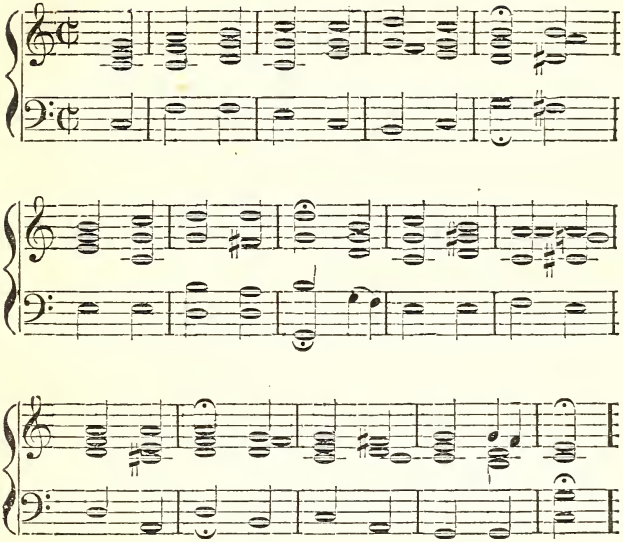

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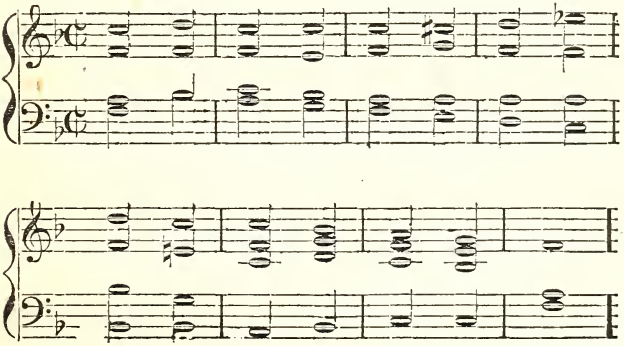

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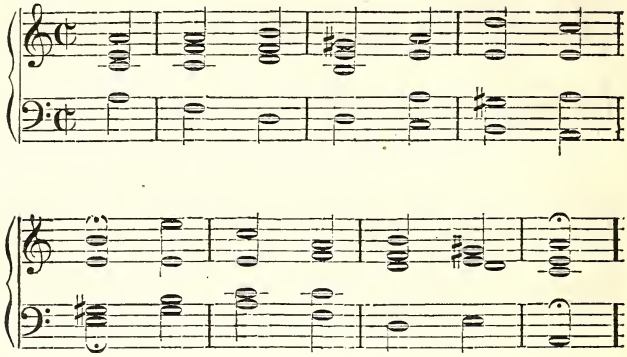

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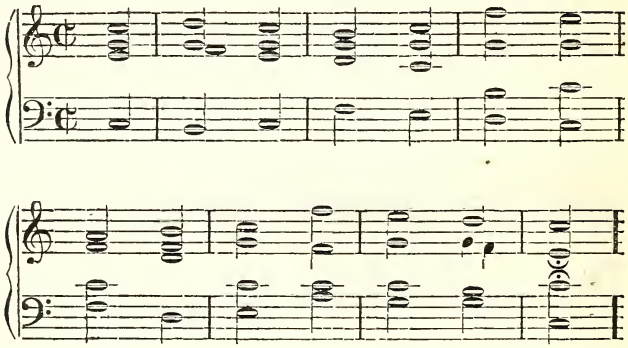

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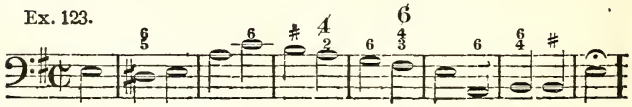

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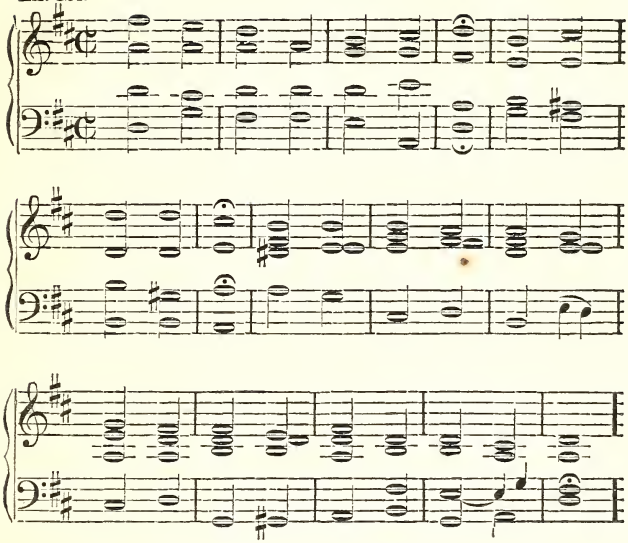

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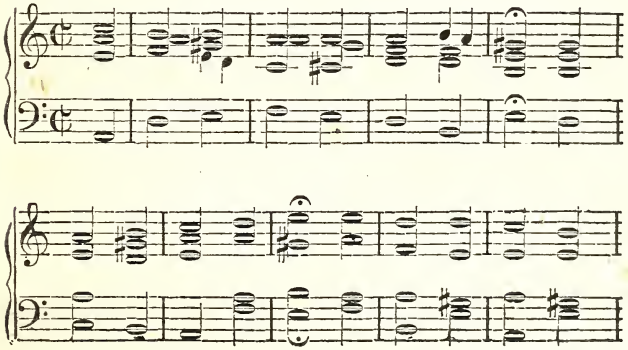

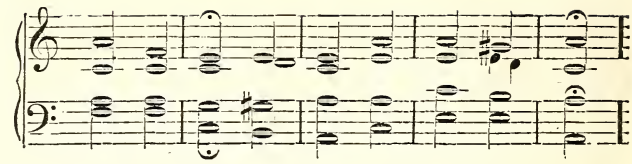

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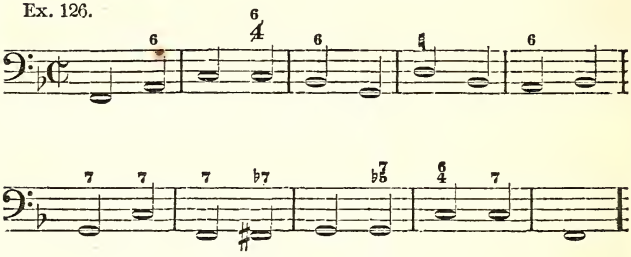

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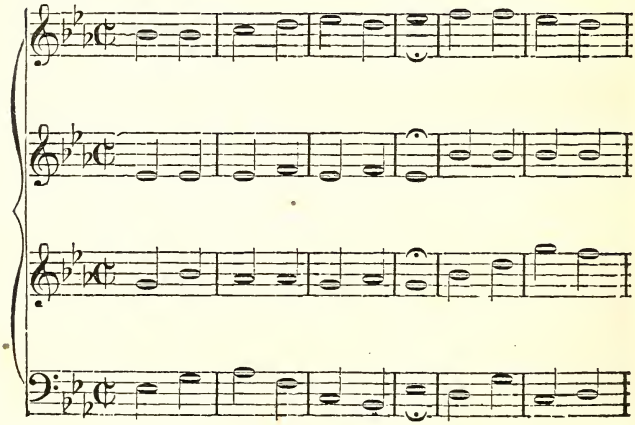

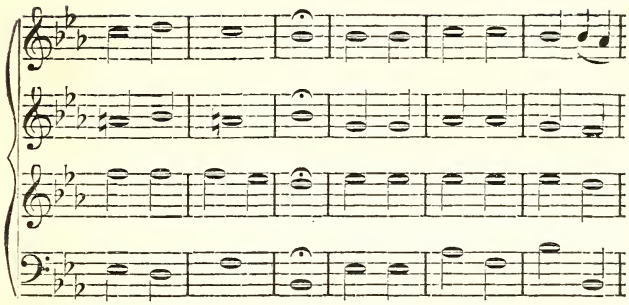

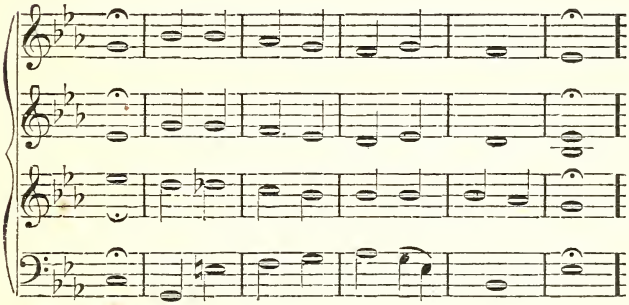

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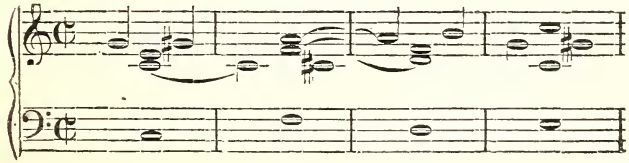

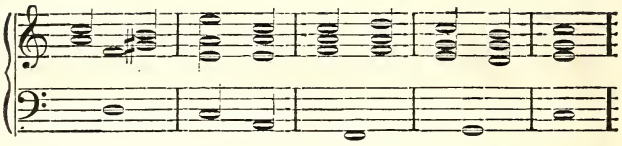

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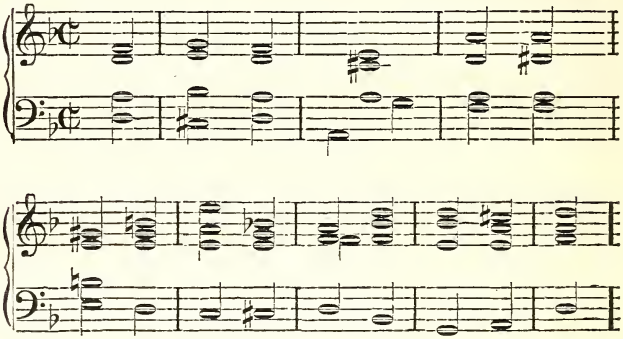

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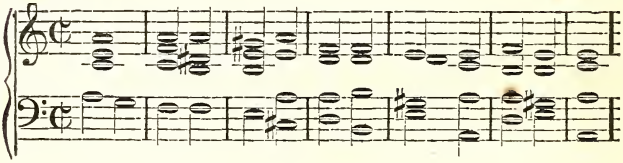

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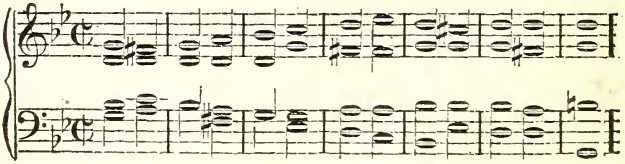

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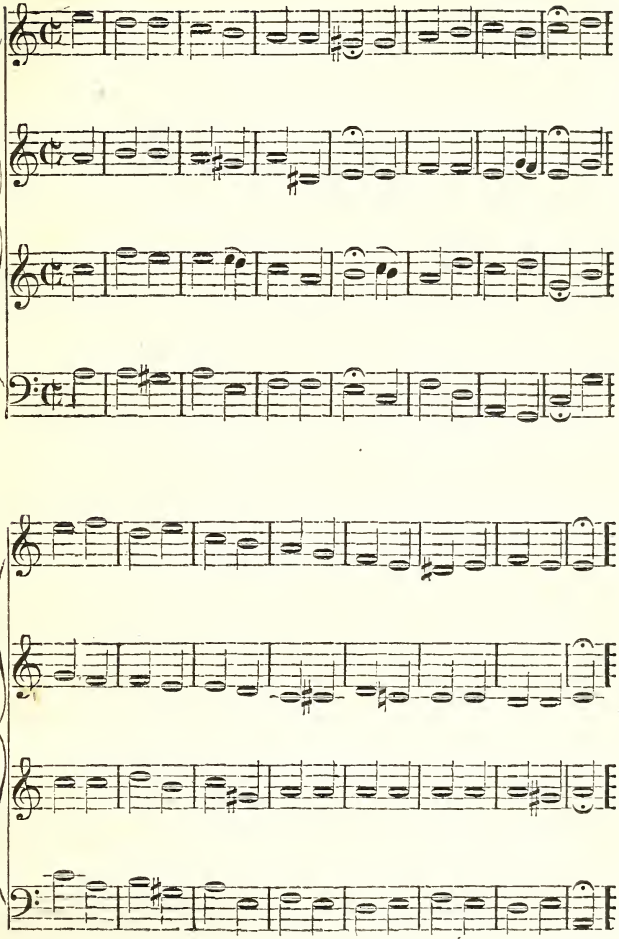

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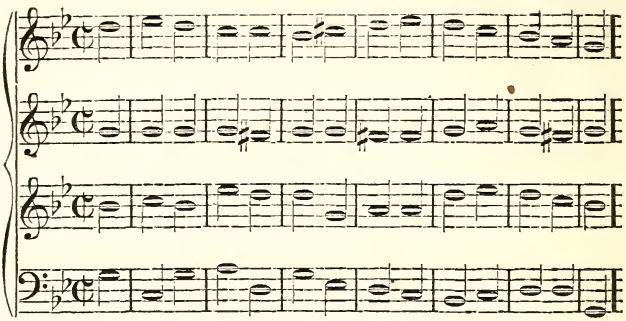

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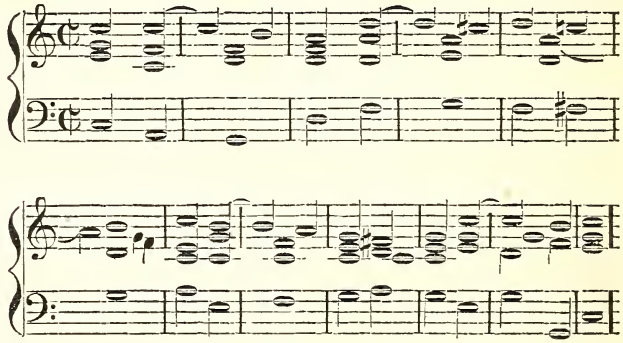

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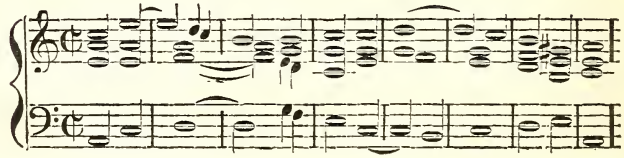

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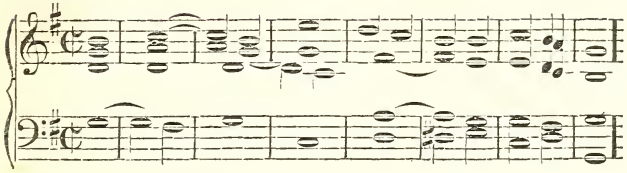

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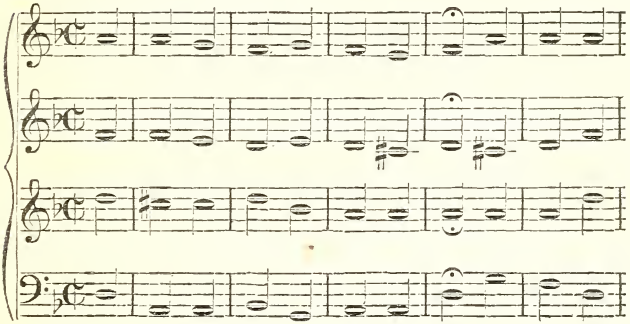

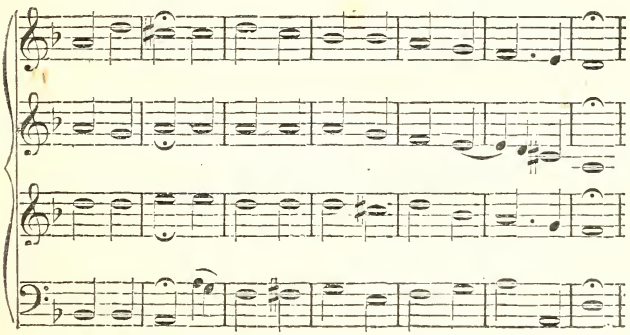

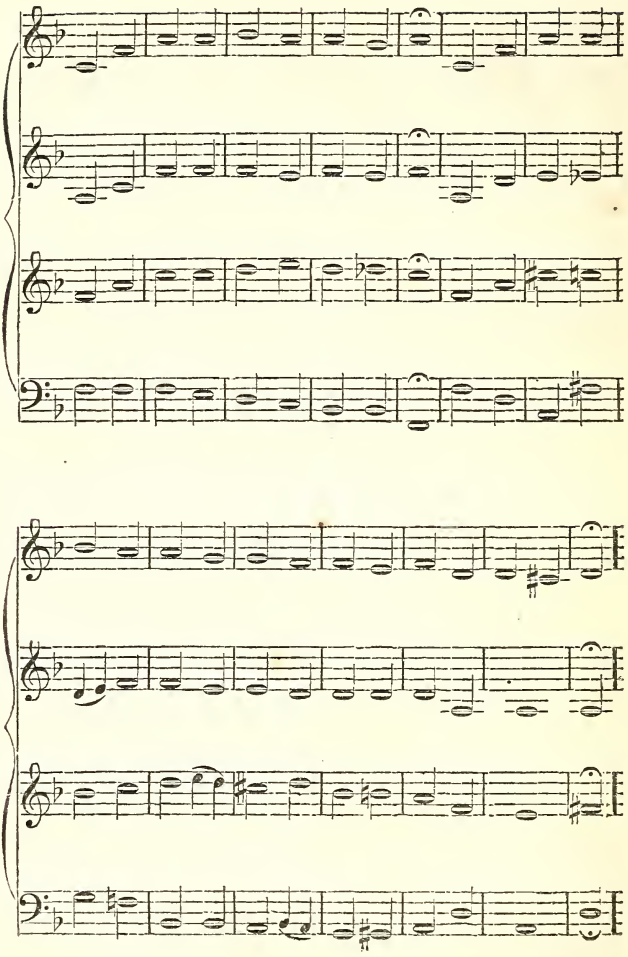

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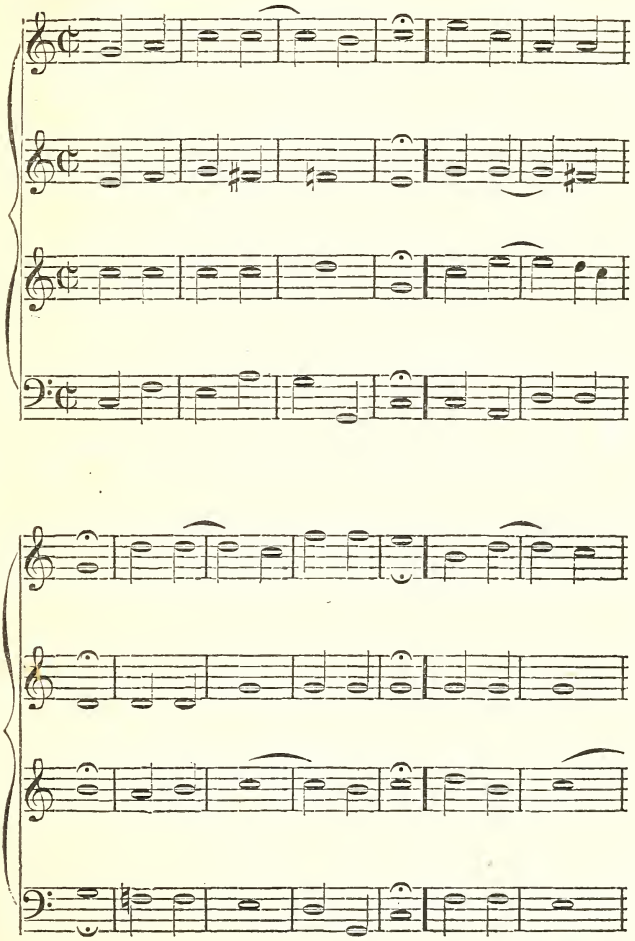

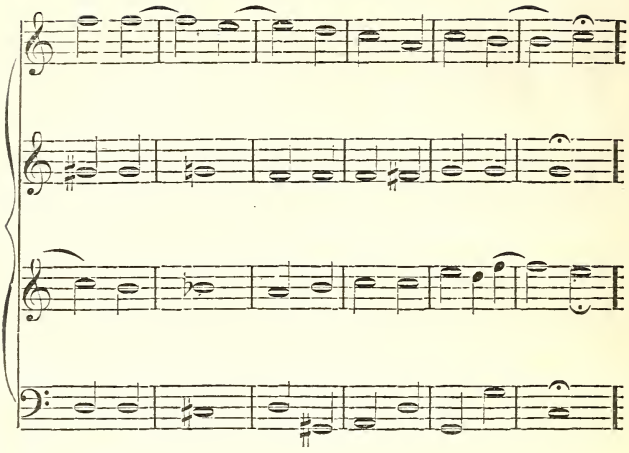

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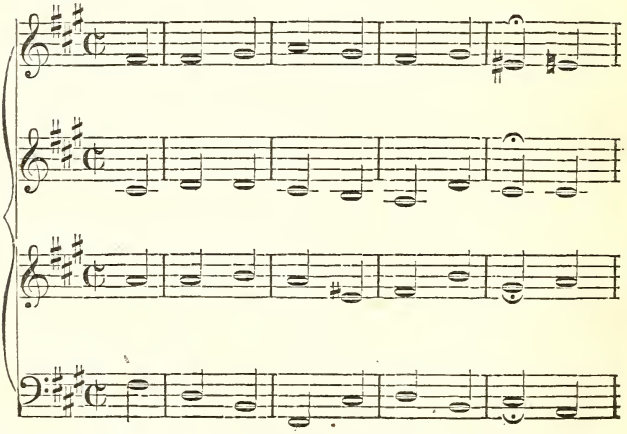

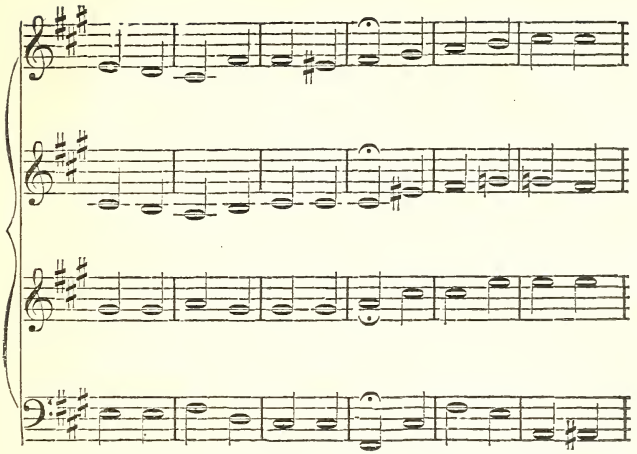

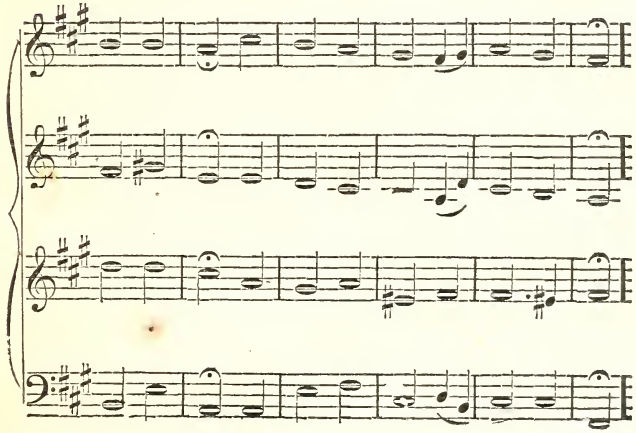

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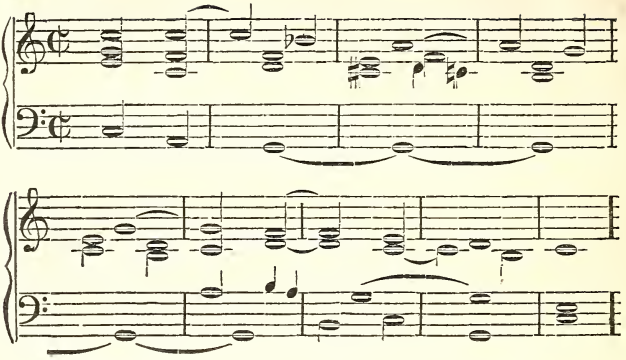

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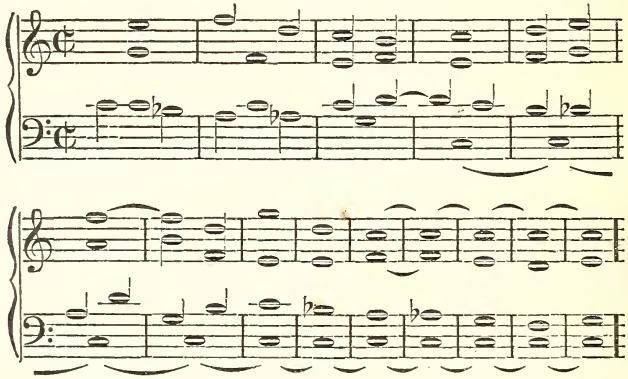

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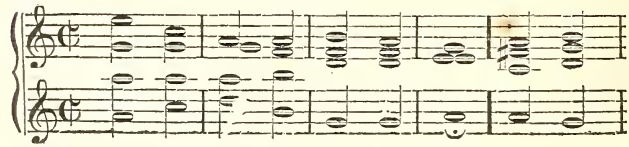

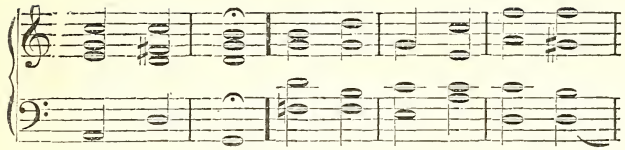

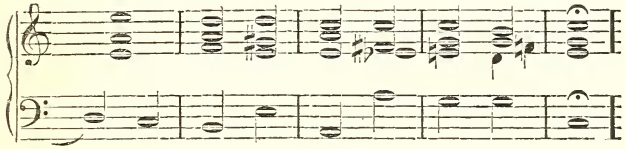

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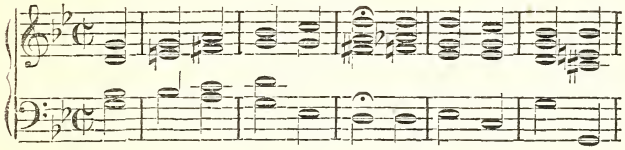

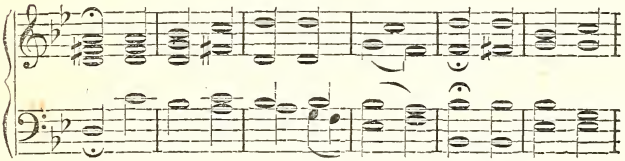

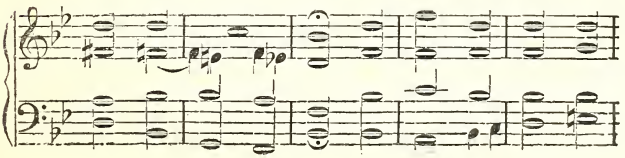

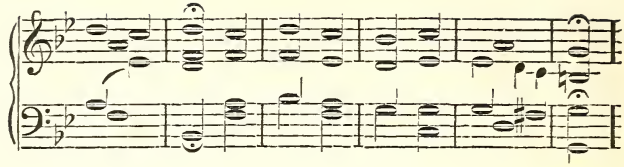

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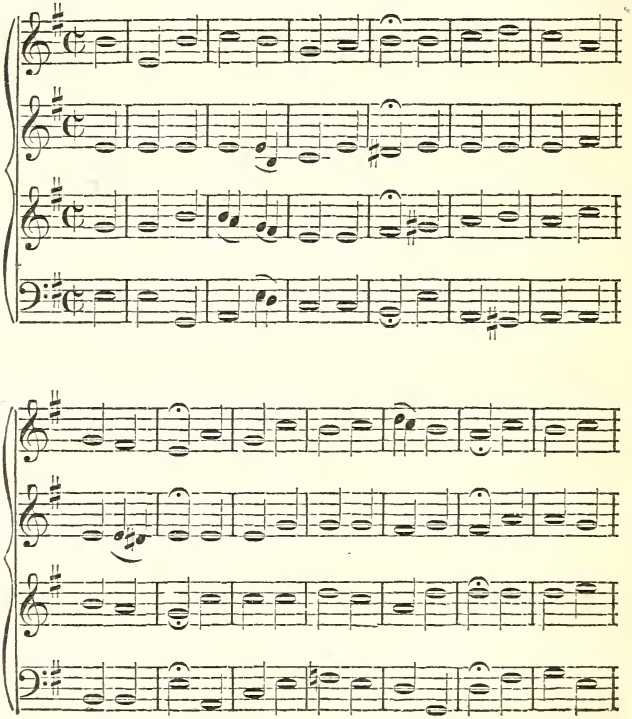

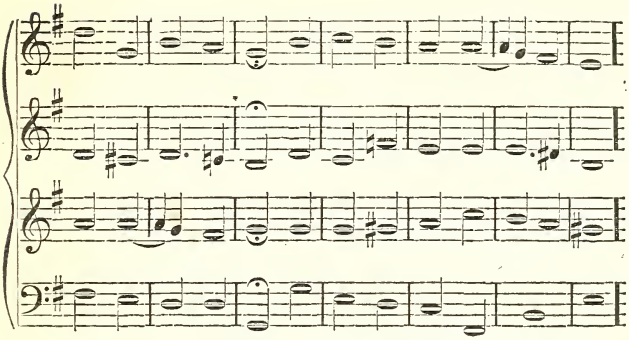

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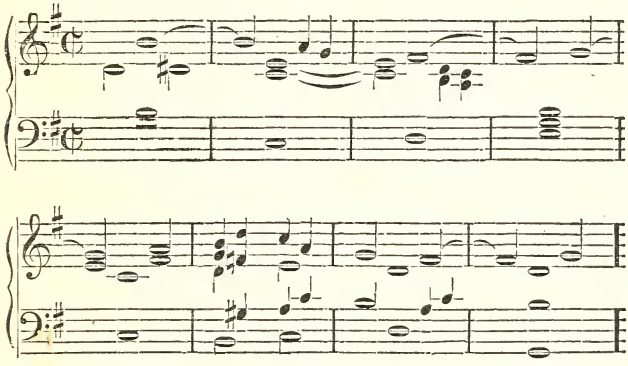

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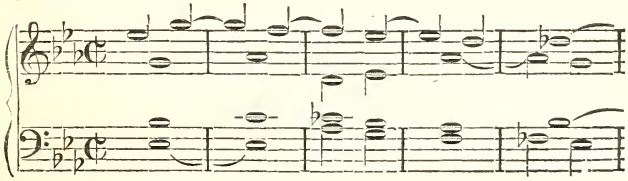

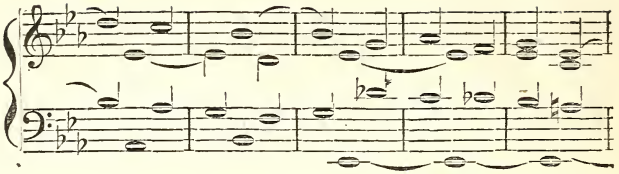

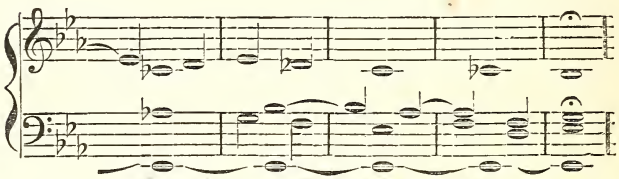

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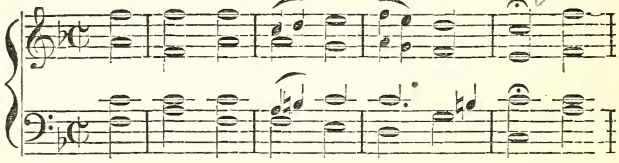

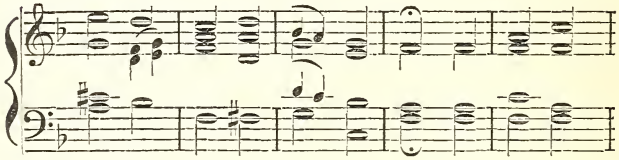

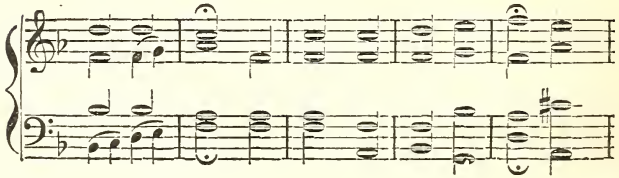

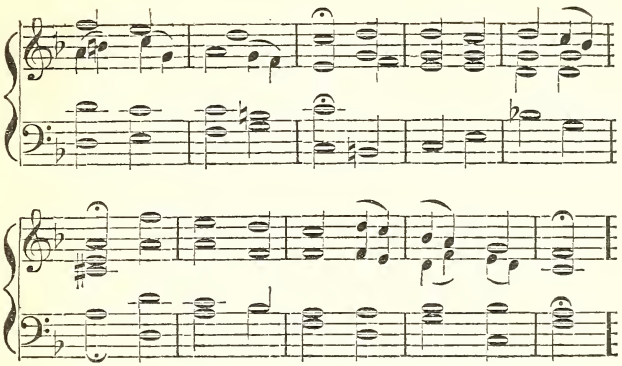

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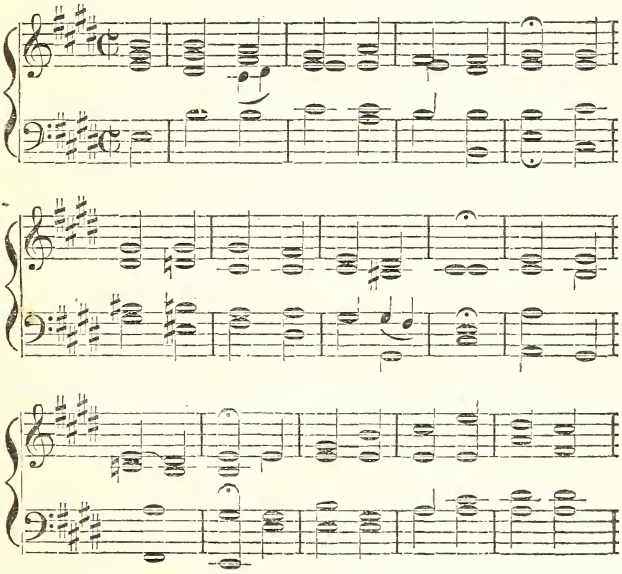

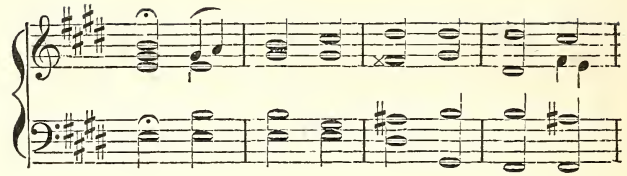

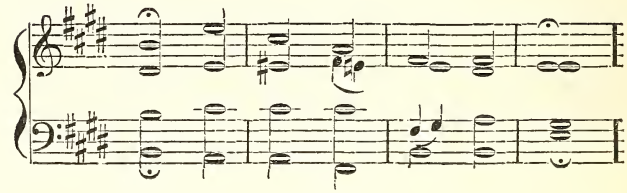

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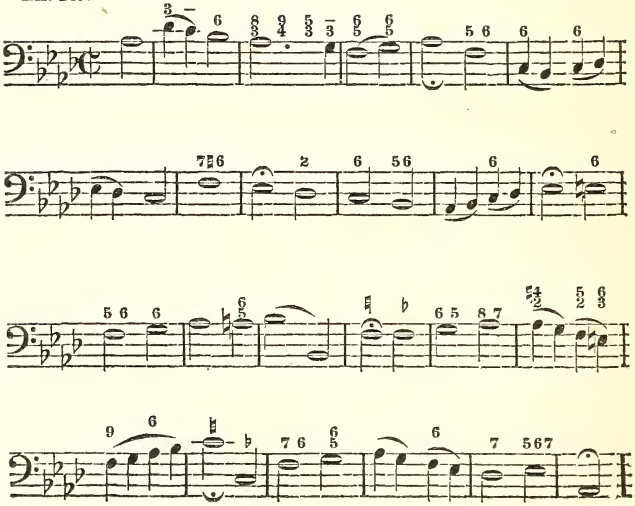

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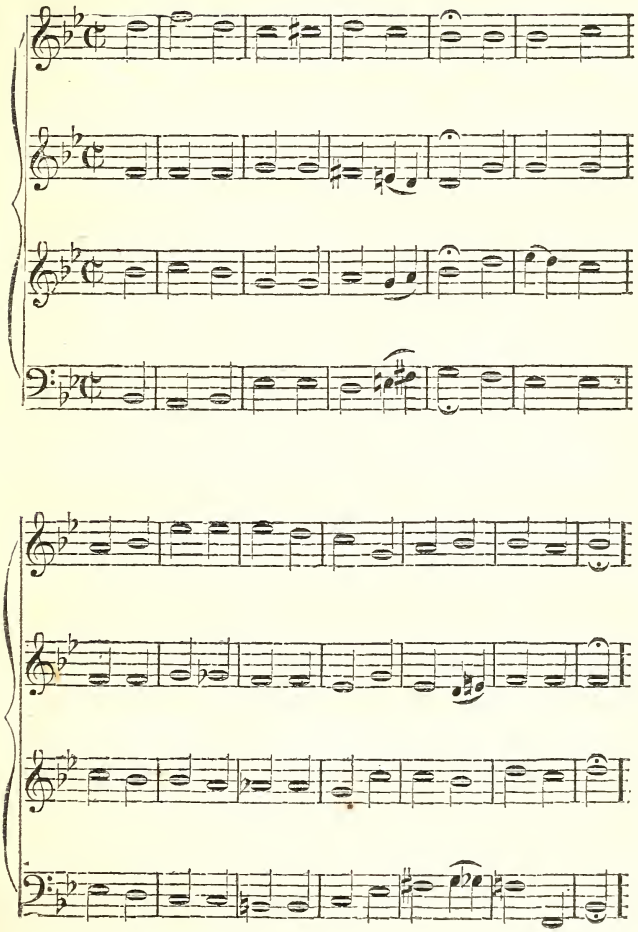

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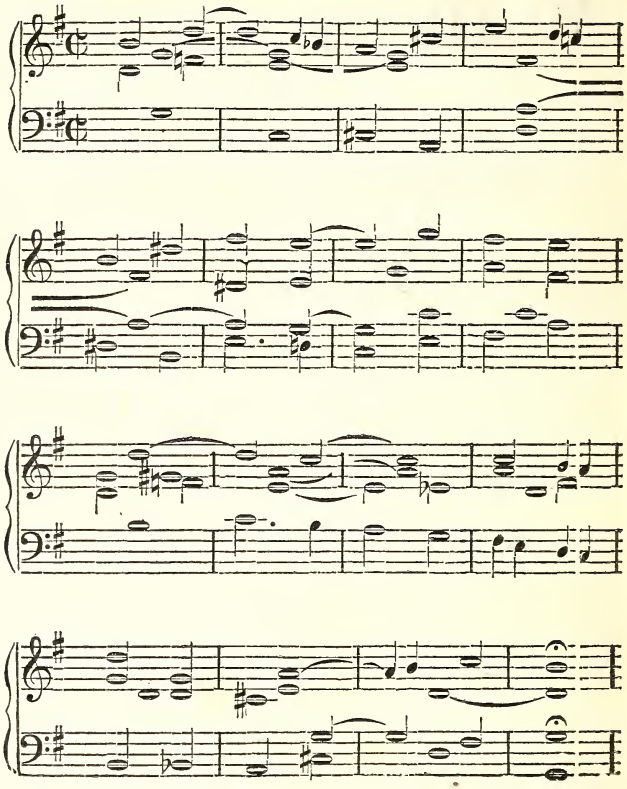

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